# RANI BIRLA GIRLS' COLLEGE 38, SHAKESPARE SARNI KOLKATA-700017

Criterion: 1

Index Number: 1.1

SUBTITLE: LESSON PLAN

DEPARTMENT: GEOGRAPHY (CBCS SYSTEM)

YEAR: 2018-19

- 2019-20
- 2020-21
- 2021-22
- 2022-23

# Lesson Plan for CBCS Syllabus

### Subject: Geography

## Session: 2018-19

SEMESTER	UNIT	CLASSES AVAILABLE (APPROX)	ΤΟΡΙϹ	NAME OF THE TEACHER	NO. OF LECTURES	REMEDIAL/T UTORIAL	REMARKS
	CC-1 THEORY	7	<ol> <li>Earth's tectonic and structural evolution concerning geological time scale</li> <li>Earth's interior with special reference to seismology</li> </ol>	DK	6	01 Remedial class	Class test in 3 <sup>rd</sup> week of September
		10	<b>3.</b> Isostasy: Models of Airy, Pratt, and their applicability	SD	7	02 Remedial class	Class test in 2nd week of September
I Honours		10	<ul> <li>4. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots</li> <li>5. Folds and Faults—origin and types.</li> </ul>	SB	7	02 Remedial class	
		4	6. Degradational processes: Weathering, mass wasting, and resultant landforms	КВ	3	02 Remedial class	
		6	7.Processes of entrainment,	KPL	5		

		transportation, and			02 Remedial	
		deposition by different geomorphic agents. Role of			class	
		humans in landform				
		development [4]				
	5	8. Development of river	AD	7		
		network and landforms on				
		uniclinal and folded			02 Remedial	
		structures. Surface			class	
		expression of faults [7]				
	4	9. Development of river	DK	4		
		network and landforms on				
		granites, basalts and				
		limestones [4]				Class test in
	4	10. Coastal processes and	SD	4		2nd week of
		landforms [4]				September
	4	11. Glacial and glacio-	KB	4		
		fluvial processes and				
		landforms [4]				
	8	12. Aeolian and fluvial-	KPL	4		
		aeolian processes and				
		landforms [4]				
	8	13. Role of time in	AD	8		
		geomorphology: Schumm				
		and Lichty's model. Models				
		on landscape evolution:				
		Views of Davis, Penck, King,				
		and Hack. Significance of				
		systems approach [8]				
CC-1	20	1. Measurement of dip and	SB	18		
PRACTIC		strike using clinometer [6]				
AL		2. Megascopic				
		identification of (a) mineral				

		г			Γ	T
		samples: Bauxite, calcite,				
		chalcopyrite, feldspar,				
		galena, gypsum, hematite,				
		magnetite, mica, quartz,				
		talc, tourmaline; and (b)				
		rock samples: Granite,				
		basalt, dolerite, laterite,				
		limestone, shale,				
		sandstone, conglomerate,				
		slate, phyllite, schist,				
		gneiss, quartzite, marble				
		[14]				
		3. Extraction and				Class test in
		interpretation of		13		2nd week of
	15	geomorphic information		10		September
		from Survey of India 1:50k				~
		topographical maps of				
		plateau region:				
		Construction of relief				
		profiles (superimposed,				
		projected, and composite).				
	15	3. Delineation of drainage	KPL	13		
		basins. Construction of				
		relative relief map, slope				
		map (Wentworth's				
		method), drainage density				
		map, stream ordering				
		(Strahler), and bifurcation				
		ratio on a drainage basin (c.				
		5' x 5') [35]				
		4. Construction of				
		hypsometric curve and		10		
	10	derivation of hypsometric		10		
1	10					I

CC-2	4	integer of a drainage basin (c. 5' x 5') from Survey of India 1:50k topographical maps of plateau region Strahler), and bifurcation ratio on a drainage basin (c. 5' x 5')	DK	3	
THEORY		1. Maps: Components and classification [4]	DK	3	01 Remedial class
	8	2. Concept and application of scales: Plain, comparative, diagonal, and Vernier [8]	КВ	8	01 Remedial class
	6	3. Coordinate systems: Polar and rectangular [6]	AD	6	01 Remedial class
	2	4. Concept of generating globe [2]	SB	2	01 Remedial class
	5	5. Grids: Angular and linear systems of measurement [5]	AD	5	
	5	6. Bearing: Magnetic and true, whole-circle and reduced [5]	SD	5	
	4	7. Concept of geoid and spheroid with special reference to Everest and WGS-84 [4]	SD	4	
	8	8. Map projections: Classification, properties and uses [8]	SB	8	

	2	0 Concept and significance	DK	2		
	2	9. Concept and significance	DK	2		
		of UTM projection [2]			01 Remedial	
					class	
	10	10. Representation of data	КВ	8		
		using dots, spheres and				
		divided proportional circles				
		[5]				
		11. Representation of data			01 Remedial	
		using isopleth, choropleth,			class	
		and chorochromatic maps				
		-				
	-	[5]		4		
	5	12. Survey of India	KPL	4		
		topographical maps:			01 Remedial	
		Reference scheme of old			class	
		series			01055	
	6	12. Survey of India	SD	5		
		topographical maps:				
		Reference scheme of open			01 Remedial	
		series. Information on the			class	
		margin of maps [6]				
CC-2	2 16	1. Graphical construction	КВ	15		-+
PRACT		-	ND	15		
		of scales: Plain,				
AL		comparative, diagonal and				
		Vernier [16]				
	20	2. Construction of	SB	20		
		projections: Polar Zenithal				
		Stereographic, Simple				
		Conic with one standard			02 Remedial	
		parallel, Bonne's,			class	
		Cylindrical Equal Area, and				
		Mercator's [20]				
	10		KD	10		
	12	3. Thematic maps:	КВ	12		
		Proportional squares, pie				

		•				 
			diagrams with proportional			
			circles, dots, and spheres			
			[12]			
			4. Thematic maps:			
		12	Choropleth, isopleth, and			
			chorochromatic maps [12]			
I	GE-1	3	1. Earth's interior with	DK	3	
GENERAL	THEORY		special reference to	BR	C	
Ι			seismology [3]			
-		7	2. Plate Tectonics as a	SB	5	
		/	unified theory of global	30	5	
			tectonics. Formation of			
			major relief features of the			
			ocean floor and continents			
			according to Plate			
			Tectonics [7]			
		6	3. Folds and faults:	SD	5	
			Classification and surface			
			expressions [6]			
		4	4. Degradational	AD	3	
			processes: Weathering,			
			mass wasting, and			
			resultant landforms [4]			
		12	5. Principal geomorphic	SD	10	
			agents. Classification and			
			evolution of coastal,			
			aeolian, and glacial			
			landforms [12]			
		7	6. Basic models of slope	DK	6	
		/		UN	U	
			evolution: Decline,			
			replacement, and retreat.			
			Systems approach and its			

				1		1
		significance in				
		geomorphology.				
	9	7. Global hydrological	KPL	9		
		cycle: Its physical and				
		biological role [2] 8. Runoff:				
		Controlling factors.				
		Concept of ecological flow				
		[3] 9. Drainage basin as a				
		hydrological unit.				
		Principles of watershed				
		-				
	15	management [3]	4.5	13		
	15	10. Physical and chemical	AD	13		
		properties of ocean water.				
		Distribution and				
		determinants of				
		temperature and salinity				
		[4]				
		11. Ocean circulation,				
		wave, and tide [7]				
		12. Marine resources:				
		Classification and				
		sustainable utilisation [3]				
	20	1. Megascopic	SB	20	02 Remedial	
		identification of mineral			class	
		samples: Bauxite, calcite,				
GE-1		chalcopyrite, feldspar,				
PRACTIC		galena, hematite, mica,				
AL		quartz, talc, tourmaline [8]				
		2. Megascopic				
		identification of rock				
		samples: Granite, basalt,				
		laterite, limestone, shale,				
		sandstone, conglomerate,				

	-					I I	
			slate, phyllite, schist,				
			gneiss, quartzite [12]				
		20	3. Extraction of	КВ	20	02 Remedial	
			physiographic information			class	
			from Survey of India 1:50k				
			topographical maps of				
			plateau region:				
			Construction and				
			interpretation of relief				
			profiles (superimposed,				
			projected, and composite),				
			Construction and				
			interpretation of relative				
			relief map (c. $5' \times 5'$ ) [20]				
		20	4. Extraction of drainage	KPL	20	02 Remedial	
		20	information from Survey of	NTL	20	class	
			-			Class	
			India topographical maps				
			of plateau region:				
			Extraction and				
			interpretation of channel				
			features and drainage				
			patterns, Construction of				
			channel profiles [20]				
		4	4 Natura anala ind		2		
II HONOURS		4	1. Nature, scope and	DK	2		
HUNUUKS			recent trends. Elements of				
			human geography [4]				
	(CC-3)	16	2. Approaches to Human	SD	15		
	THEORY		Geography: Resource,				
			locational, landscape,				
			environment				
L					1		

		<ul> <li>3. Concept and classification of race.</li> <li>Ethnicity</li> <li>4. Space, society, and cultural regions (language and religion)</li> </ul>			
	6	5. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming, and industrial society [6]	SB	5	
	4	6. Human adaptation to environment: Case studies of Eskimo, Masai and Maori [4]	KPL	3	
	5	7. Population growth and distribution, composition; demographic transition [5]	КВ	4	
	5	8. Population–resource regions (Ackerman) [5] 9. Development–	DK	2	
	5 5	environment conflict [5] 10. Types and patterns of		2	
	5	rural settlements [5] 11. Rural house types in	GB	2	
		India [5]	GB	2	
	5	12. Morphology and hierarchy of urban settlements [5]	GB	3	
CC-3	12	1. Spatial variation in continent- or country-level	SB	10	

PRACTIC AL		religious composition by divided proportional circles [12]			
	15	2. Measuring arithmetic growth rate of population comparing two decadal datasets [15]	КВ	10	
	20	3. Types of age-sex pyramids (progressive, regressive, intermediate, and stationary): Graphical representation and analysis [20]	SB	15	
	13	4. Nearest neighbour analysis from Survey of India 1:50k topographical maps of plain region (c. 5' x 5') [13]	KPL	10	
(CC-4) THEORY	4	1. Concepts of rounding, scientificnotation.Logarithmlogarithm.Natural and log scales [4]	SD	4	
	2	2. Concept of diagrammatic representation of data [2]	GB	1	
	10	<ul> <li>3. Preparation and interpretation of geological maps [5]</li> <li>4. Preparation and interpretation of weather maps [5]</li> </ul>	КВ	6	

r		1			1	
	5	5. Preparation and interpretation land use land cover maps [5]	GB	3		
	10	<ul> <li>6. Preparation and interpretation of socio- economic maps [5]</li> <li>7. Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, and NRSC / Bhuvan [5]</li> </ul>	DK	6		
	12	<ul> <li>8. Basic concepts of surveying and survey equipment: Prismatic compass [5]</li> <li>9. Basic concepts of surveying and survey equipment: Dumpy level [7]</li> </ul>	KPL	10		
	7	10. Basic concepts of surveying and survey equipment: Theodolite [7]	SB	6		
	5	11. Basic concepts of surveying and survey equipment: Abney level [5]	SB	4		
	5	12. Basic concepts of surveying and survey equipment: Laser distance measurer [5]	GB	4		
CC-4 PRACTIC AL	22	1. Traverse survey using prismatic compass [10]	KPL	18		

2. Profile survey using dumpy Level [12]	
dumpy Level [12]	
183. Height determination ofSB15	
base accessible and	
inaccessible (same vertical	
plane method) objects by	
theodolite [18]	
20 4. Interpretation of KB 18	
geological maps with	
uniclinal structure, folds,	
unconformity, and	
intrusions [20]	
II GE-2 5 1. Insolation and Heat DK 3	
GENERAL THEORY Budget. Horizontal and	
vertical distribution of	
atmospheric temperature	
and pressure [5]	
20     2. Overview of planetary     SD     18	
wind systems. Indian	
Monsoons: Mechanisms	
and controls [6]	
3. Atmospheric	
disturbances: Tropical and	
temperate cyclones.	
Thunderstorms [7]	
4. Overview of global	
climatic change:	
Greenhouse effect. Ozone	
depletion [5]	
5. Scheme of world climatic	
classification by Köppen [2]	
4 6. Factors of soil formation KPL 3	
[4]	

16	7. Soil profile development	AD	14	
10	under different climatic	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	T	
	conditions: Laterite,			
	Podsol, and Chernozem [6]			
	8. Physical and chemical			
	properties of soils: Texture,			
	structure, pH, salinity, and			
	NPK status [6]			
	9. USDA classification of			
	soils. Soil erosion and its			
6	management [4]	KPL	5	
U	10. Ecosystem and Biomes. Distribution and	KPL	5	
	characteristics of tropical			
	rainforest; Savannah, and			
9	hot desert biomes [6]			
9	11. Plant types, occurrence	DK	7	
	and ecological adaptations:			
	Halophytes, xerophytes,			
	hydrophytes, and			
	mesophytes [5]			
	12. Biodiversity: Types,			
	threats and management			
	with special reference to			
20	India [4]		10	
20	1. Interpretation of daily	SD	18	
	weather map of India (any			
	one): Pre-Monsoon or			
	Monsoon or Post-			
<b>*</b> ^	Monsoon [20]		40	
20	2. Construction and	KB	18	
	interpretation of			
	hythergraph, climograph			

		(G. Taylor) and wind rose (seasonal) [20]			
		3. Determination of soil type by ternary diagram textural plotting [10]	DK	8	
	10	4. Preparation of peoples' biodiversity register [10]	SD	8	

# Lesson Plan for CBCS Syllabus

#### Subject: Geography

Session: 2019-20

SEMESTER	UNIT	CLASSE S AVAILA BLE (APPRO X)	ΤΟΡΙϹ	NAME OF THE TEAC HER	NO. OF LECTURES	REMEDIAL/TUTORIAL	REMARKS
	CC-1 THEORY	7	<ol> <li>Earth's tectonic and structural evolution concerning geological time scale</li> <li>Earth's interior with special reference to seismology</li> </ol>	DK SB & DK	6	01 Remedial class	Class test in 3 <sup>rd</sup> week of September
T		10	<b>3.</b> Isostasy: Models of Airy, Pratt, and their applicability	SD & SB	7	02 Remedial class	Class test in 2nd week of September
Honours		10	4. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots [10]		7	02 Remedial class	
		4	5. Folds and Faults—origin and types. [4]	КВ	3	02 Remedial class	

	Wea	Degradational processes: thering, mass wasting, and	KPL			
	5 7. P trans by agen	Itant landforms [5] rocesses of entrainment, sportation, and deposition different geomorphic ts. Role of humans in form development [4]		5	02 Remedial class	
	5 8. netw unicl	Development of river vork and landforms on inal and folded structures. ace expression of faults [7]	DK	7	02 Remedial class	
	netw gran	Development of river vork and landforms on ites, basalts and stones [4]		4		Class test in
		Coastal processes and forms [4]	KB	4		2nd week of September
		Glacial and glacio-fluvial esses and landforms [4]	KPL	4		
		Aeolian and fluvial-aeolian esses and landforms [4]	GB	4		
	3 13. geon Licht lands Davis Signi appr	Role of time in norphology: Schumm and y's model. Models on scape evolution: Views of s, Penck, King, and Hack. ficance of systems oach [8]	AD	8		
CC-1 2 PRACTICAL	0 1. N	Neasurement of dip and e using clinometer [6]	SB	18		

	2. Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and (b) rock samples: Granite, basalt, dolerite, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite, marble [14]			
15			13	Class test in 2nd week of September
15	3. Extraction and interpretation of geomorphic information from Survey of India 1:50k topographical maps of plateau region: Construction of relief profiles (superimposed, projected, and composite).	KPL	13	
10	4. Delineation of drainage basins. Construction of relative relief map, slope map (Wentworth's method), drainage density map, stream ordering (Strahler), and bifurcation ratio on a drainage basin (c. 5' x 5') [35]		10	

	CC-2 THEORY	4	1. Maps: Components and classification [4]	DK	3	01 Remedial class
		8	2. Concept and application of scales: Plain, comparative, diagonal, and Vernier [8]	КВ	8	01 Remedial class
		6	3. Coordinate systems: Polar and rectangular [6]	GB	6	01 Remedial class
		2	4. Concept of generating globe [2]	SB	2	01 Remedial class
		5	5. Grids: Angular and linear systems of measurement [5]	GB	5	
		5	6. Bearing: Magnetic and true, whole-circle and reduced [5]	SD	5	
		4	7. Concept of geoid and spheroid with special reference to Everest and WGS- 84 [4]	GB	4	
		8	8. Map projections: Classification, properties and uses [8]	SB	8	
		2	9. Concept and significance of UTM projection [2]	GB	2	01 Remedial class
		5	<ul> <li>10. Representation of data using dots, spheres and divided proportional circles [5]</li> <li>11. Representation of data</li> </ul>	КВ	8	01 Remedial class
			using isopleth, choropleth, and chorochromatic maps [5]			
		5	12. Survey of India topographical maps: Reference scheme of old series	KPL & GB	4	01 Remedial class

	CC-2 PRACTICAL	16	1. Graphical construction of scales: Plain, comparative, diagonal and Vernier [16]	КВ	15	
		20	2. Construction of projections: Polar Zenithal Stereographic, Simple Conic with one standard parallel, Bonne's, Cylindrical Equal Area, and Mercator's [20]	SB	20	02 Remedial class
		24	<ul> <li>3. Thematic maps: Proportional squares, pie diagrams with proportional circles, dots, and spheres [12]</li> <li>4. Thematic maps: Choropleth, isopleth, and chorochromatic maps [12]</li> </ul>	КВ	12	
I GENERAL	GE-1 THEORY	3	1. Earth's interior with special reference to seismology [3]	DK	3	
		7	2. Plate Tectonics as a unified theory of global tectonics. Formation of major relief features of the ocean floor and continents according to Plate Tectonics [7]	SB	5	
		6	3. Folds and faults: Classification and surface expressions [6]	SD	5	
		4	4. Degradational processes: Weathering, mass wasting, and resultant landforms [4]	AD	3	
		12	5. Principal geomorphic agents. Classification and evolution of fluvial	SD	10	

		5. Principal geomorphic				
		agents. Classification and				
		evolution of coastal, aeolian,				
		and glacial landforms [12]				
	7	6. Basic models of slope	DK	6		
	,	evolution: Decline,	DR	Ū		
		replacement, and retreat.				
		Systems approach and its				
		significance in geomorphology				
		[6].				
	9	7. Global hydrological cycle: Its	KPL	9		
	,	physical and biological role [2]		,		
		8. Runoff: Controlling factors.				
		Concept of ecological flow [3]				
		9. Drainage basin as a				
		hydrological unit. Principles of				
		watershed management [3]				
-	15	10. Physical and chemical	AD	13		
		properties of ocean water.				
		Distribution and determinants				
		of temperature and salinity [4]				
		11. Ocean circulation, wave,				
		and tide [7]				
		12. Marine resources:				
		Classification and sustainable				
		utilisation [3]				
GE-1	20	1. Megascopic identification of	SB	20	02 Remedial class	
PRACTICAL		mineral samples: Bauxite,				
		calcite, chalcopyrite, feldspar,				
		galena, hematite, mica, quartz,				
		talc, tourmaline [8]				
		2. Megascopic identification of				
		rock samples: Granite, basalt,				

I						1	
			laterite, limestone, shale,				
			sandstone, conglomerate,				
			slate, phyllite, schist, gneiss,				
			quartzite [12]				
		20	3. Extraction of physiographic	КВ	20	02 Remedial class	
			information from Survey of				
			India 1:50k topographical				
			maps of plateau region:				
			Construction and				
			interpretation of relief profiles				
			(superimposed, projected, and				
			composite), Construction and				
			interpretation of relative relief				
			-				
			map (c. 5'×5') [20]		• •		
		20	4. Extraction of drainage	KPL	20	02 Remedial class	
			information from Survey of				
			India topographical maps of				
			plateau region: Extraction and				
			interpretation of channel				
			features and drainage				
			patterns, Construction of				
			channel profiles [20]				
III	CC-5	20	1. Nature, composition and	КВ			
HONOURS	THEORY		layering of the atmosphere [4]				
			2. Insolation: Controlling				
			factors. Heat budget of the				
			-				
			atmosphere [6] 3.				
			Temperature: horizontal and		18		
			vertical distribution. Inversion				
		4	of temperature: types, causes				
		-	and consequences [6] 4.				
			Overview of climate change:				
		1	Greenhouse effect. Formation,	1			

TTT					
		depletion, and significance of			
		the ozone layer [4]			
	20	5. Condensation: Process and	GB		
		forms. Mechanism of			
		precipitation: Bergeron-			
		Findeisen theory, collision and			
		coalescence. Forms of			
		precipitation [6]			
		6. Air mass: Typology, origin,			
		characteristics and		10	
		modification [4]		18	
		7. Fronts: Warm and cold,			
		frontogenesis, and frontolysis			
		[5]			
		8. Weather: Stability and			
		instability, barotropic and			
		baroclinic conditions [5]			
Ē	20	9. Circulation in the			
		atmosphere: Planetary winds,	SD		
		jet streams, index cycle [5]			
		10. Atmospheric disturbances:			
		Tropical and mid-latitude			
		cyclones, thunderstorms [5]			
		11. Monsoon circulation and		18	
		mechanism with reference to			
		India [5]			
		12. Climatic classification after			
		Thornthwaite (1955) and			
		Oliver [5]			
CC-5	60	1. Measurement of weather	КВ	38	
Practical		elements using analogue			
		instruments: Mean daily			

		temperature, air pressure,			
		relative humidity, and rainfall			
		[15] 2. Interpretation of a daily			
		weather map of India (any			
		two): Pre-Monsoon, Monsoon,			
		and Post-Monsoon [20] 3.			
		Construction and			
		interpretation of hythergraph			
		and climograph (G. Taylor) [15]			
		4. Construction and			
		interpretation of wind rose			
		[10]			
CC-6	15	1. Systems approach in	KPL	12	
THEORY		hydrology. Global hydrological			
		cycle: Its physical and			
		biological role [5] 2. Run off:			
		controlling factors. Infiltration			
		and evapotranspiration. Run			
		off cycle [5] 3. Drainage basin			
		as a hydrological unit.			
		Principles of water harvesting			
		and watershed management			
		[5]			
	5	4. Groundwater: Occurrence	DK	3	
	5		DK	5	
		5			
		controlling recharge, discharge			
	- 11	and movement [5]		10	
	14	5. Major relief features of the	AD	12	
		ocean floor: Characteristics			
		and origin according to plate			
		tectonics [6] 6. Physical and			
		chemical properties of ocean			
		water [4] 7. Water mass, T–S			

			diagram [4] 8. Air-Sea			
			interactions, ocean circulation,			
			wave and tide [8]			
		18	9. Ocean temperature and	DK	15	
			salinity: Distribution and			
			, determinants [4] 10. Coral			
			reefs: Formation, classification			
			and threats [5] 11. Marine			
			resources: Classification and			
			sustainable utilisation [4] 12.			
			Sea level change: Types and			
	<b>AA</b> (	<u></u>	causes [5]		40	
	CC-6	60	1. Construction and	KPL	40	
ł	PRACTICAL		interpretation of rating curves			
			[10] 2. Construction and			
			interpretation of hydrographs			
			and unit hydrographs [15] 3.			
			Construction and			
			interpretation of monthly			
			rainfall dispersion diagram			
			(Quartile method), Climatic			
			water budget, and Ergograph			
			[25] 4. Construction of			
			1 70			
	00.7	100	precipitation data [10]	6.0	75	
	CC-7	120	1. Importance and significance	SB	75	
	THEORY &		of statistics in Geography [4] 2.			
1	PRACTICAL		Discrete and continuous data,			
			population and samples, scales			
			of measurement (nominal,			
			ordinal, interval and ratio) [5]			
			3. Sources of geographical data			
			for statistical analysis [4] 4.			

		-			
		Collection of data and			
		preparation of statistical tables			
		[5] 5. Sampling: Need, types,			
		significance, and methods of			
		random sampling [4] 6.			
		Theoretical distribution:			
		Frequency, cumulative			
		frequency, normal, and			
		probability [6]			
		7. Central tendency: Mean,			
		median, mode, and partition			
		values [6] 8. Measures of			
		dispersion range, mean			
		deviation, standard deviation,			
		and coefficient of variation [6]			
		9. Association and correlation:			
		Product moment correlation			
		and rank correlation, [5] 10.			
		Regression: Linear and non-			
		linear [5] 11. Time series			
		analysis: Moving average [5]			
		12. Hypothesis testing: Chi-			
		square test and T-test [5]			
SEC	7	1. Components of a coastal	SD	6	
THEORY	r	zone. Coastal morphodynamic	50	Ū	
		variables and their role in			
		evolution of coastal forms [7]			
	23	2. Environmental impacts and	KPL	20	
		management of mining, oil		-0	
		exploration, salt			
		manufacturing, land			
		reclamation and tourism [8] 3.			
		Coastal hazards and their			

			management using structural			
			and non-structural measures:			
			Erosion, flood, sand			
			encroachment, dune			
			degeneration, estuarine			
			sedimentation and pollution			
			[8] 4. Principles of Coastal Zone			
			Management. Exclusive			
			Economic Zone and Coastal			
			Regulation Zones with			
			reference to India. [7]			
		8	3. Coastal hazards and their	SB	6	
			management using structural			
			and non-structural measures:			
			Erosion, flood, sand			
			encroachment, dune			
			degeneration, estuarine			
			sedimentation and pollution			
			[8]			
		7	4. Principles of Coastal Zone	KB	6	
			Management. Exclusive			
			Economic Zone and Coastal			
			Regulation Zones with			
			reference to India. [7]			
III	GE-3	5	1. Sectors of the economy:	GB	4	
GENERAL	THEORY	2	Primary, Secondary, Tertiary	00	т	
	meoni		and Quaternary. Factors			
			-			
			affecting location of economic			
		15	activities [5]	54	12	
		15	2. Location of economic	DK	13	
			activities: Theories of von			
			Thünen, Lösch, and Weber [5]			
			3. Location of industries with			

1	1	1			
		special reference to India:			
		Cotton, Iron and Steel [5] 4.			
		Globalisation and integration			
		of world economies [5]			
	21	5. Human Society: Structure,	AD	18	
		functions, social systems.			
		Population and migration:			
		overview, causes and effects			
		[5] 6. Types and characteristics			
		of social organisations:			
		Primitive, hunting–gathering,			
		agrarian, industrial [5] 7. Race,			
		Language and Religion: Origin,			
		characteristics and spatial			
		variations [6] 8. Social Issues:			
		Diversity, conflict and			
		transformation [5]			
	20	1. Carl Sauer: cultural	SD	18	
		landscape and its elements [6]			
		2. Rural and urban			
		settlements: Differentiation in			
		cultural landscapes [5] 3.			
		Cultural regions and cultural			
		realms [5] 4. Diffusion of			
		culture and innovations [4]			
GE-3	35	1. State-wise variation in	SB	30	
PRACTICAL		occupational structure by			
		proportional divided circles			
		[15] 2. Time series analysis of			
		industrial production using any			
		two manufactured goods from			
		India [20]			

		15	3. Measuring arithmetic growth rate of population comparing two datasets [15]	КВ	14	
		10	4. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10]	KPL	7	
IV HONOURS		20	<ol> <li>Meaning and approaches to economic geography [4]</li> <li>Concepts in economic geography: Goods and services, production, exchange, and consumption [6]</li> <li>Concept of economic man. Theories of choices [6]</li> <li>Economic distance and transport costs [4]</li> </ol>	SD	18	
	CC-8 THEORY	4	5. Concept and classification of economic activities [4]	DK	3	
		6	<ul> <li>6. Factors affecting location of economic activity with special reference to agriculture (von Thünen), and industry (Weber)</li> <li>[6]</li> </ul>	AD	6	
		6	7. Primary activities: Agriculture, forestry, fishing, and mining [6]	КВ	4	
		6	8. Secondary activities: Classification of manufacturing, concept of manufacturing regions, special	AD	4	

				r		
		technology parks [6]				
	14	9. Tertiary activities:	SD	12		
		Transport, trade and services				
		[6]				
		10. Transnational sea-routes,				
		-				
	4		DK	3		
	•	-				
CC-8	10		AD	8		
	10		ΑU	Ū		
TRICITCILL						
	15		50	10		
	15		30	10		
	25		54	20		
	35	-	DK	20		
		-				
		-				
	4		KB	3		
THEORY		and delineation [4]				
	16	2. Regional Planning: Types,	DK	14		
		principles, objectives, tools				
		and techniques [6]				
		3. Regional planning and				
		multi-level planning in India				
	CC-9 THEORY	PRACTICAL	CC-9 THEORY41. Regions: Concept, types, and delineation [4]11.Interseries analysis of industrial production (India 	Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       SD         Image: technology parks [6]       Image: technology parks [6]       Image: technology parks [6]         Image: technology parks [10]       Image: technology parks [10]       Image: technology parks [11]         Image: technology parks [11]       Image: technology parks [12]       Image: technology parks [12]         Image: technology parks [15]       Image: technology parks [15]       Image: technology parks [15]         Image: technology parks [15]       Image: technology parks [16]       Image: technology parks [16]         Image: technology parks [15]       Image: technology parks [15]       Image: technology parks [15]         Image: technology parks [15]       Image: technology parks [16]       Image: technology parks [16] </td <td>Image: technology parks [6]       Image: technology parks [6]         14       9. Tertiary activities: Transport, trade and services [6]       SD       12         10. Transnational sea-routes, railways and highways with reference to India [4]       11.       International trade and economic blocs [4]         4       12. WTO and BRICS: Evolution, structure and functions [4]       DK       3         CC-8       10       1. Choropleth mapping of state-wise variation in GDP [10]       AD       8         15       2. State-wise variation in occupational structure by proportional divided circles [15]       DK       20         35       3. Time series analysis of industrial production (India and West Bengal) [20]       DK       20         4       1. Regions: Concept, types, and delineation [4]       DK       3         CC-9       4       1. Regions: Concept, types, and delineation [4]       DK       14</td> <td>Image: constraint of the second se</td>	Image: technology parks [6]       Image: technology parks [6]         14       9. Tertiary activities: Transport, trade and services [6]       SD       12         10. Transnational sea-routes, railways and highways with reference to India [4]       11.       International trade and economic blocs [4]         4       12. WTO and BRICS: Evolution, structure and functions [4]       DK       3         CC-8       10       1. Choropleth mapping of state-wise variation in GDP [10]       AD       8         15       2. State-wise variation in occupational structure by proportional divided circles [15]       DK       20         35       3. Time series analysis of industrial production (India and West Bengal) [20]       DK       20         4       1. Regions: Concept, types, and delineation [4]       DK       3         CC-9       4       1. Regions: Concept, types, and delineation [4]       DK       14	Image: constraint of the second se

	16	<ul> <li>4. Concept of metropolitan area and urban agglomeration [4]</li> <li>5. Concept of growth and development, growth versus development [6]</li> <li>6. Indicators of development: Economic, demographic, and environmental [6]</li> <li>7. Human development: Concept and measurement [4]</li> </ul>	AD	14	
	4	8. Theories and models for regional development: Cumulative causation (Myrdal) [4]	KPL	4	
	6	9. Models and theories in regional development: Stages of development (Rostow), growth pole model (Perroux) [6]	КВ	5	
	14	<ul> <li>10. Underdevelopment:</li> <li>Concept and causes [4] 11.</li> <li>Regional development in</li> <li>India: Disparity and diversity</li> <li>[5]</li> <li>12. Need and measures for</li> <li>balanced development in India</li> <li>[5]</li> </ul>	SD	13	
CC-9 PRACTICAL	60	1. Delineation of formal regions by weighted index method [15]	KPL	40	

		2. Delineation of functional regions by breaking point analysis [15]			
		<ol> <li>Measurement of inequality by location quotient [15]</li> <li>Measuring regional</li> </ol>			
		disparity by Sopher index [15]			
CC-10 THEORY	15	<ol> <li>1. Factors of soil formation [3]</li> <li>2. Definition and significance of soil properties: Texture, structure, and moisture [5]</li> <li>3. Definition and significance of soil properties: pH, organic matter, and NPK [5]</li> </ol>	КВ	10	
	5	4. Soil profile. Origin and profile characteristics of lateritic, podsol and chernozem soils [6]	DK	3	
	4	5. Soil erosion and degradation: Factors, processes and management measures. Humans as active agents of soil transformation.	SD	2	
	6	6. Principles of soil classification: Genetic and USDA. Concept of land capability and its classification [6]	КВ	5	
	5	7. Concepts of the biosphere, ecosystem, biome, ecotone, community and ecology [5]	SD	2	
	5	8. Concepts of trophic structure, food chain and food	DK	2	

		web. Energy flow in			
		ecosystems [5]			
	20	9. Classification of world	KPL	18	
		biomes (Whittaker).			
		Geographical extent and			
		characteristics of tropical rain			
		forest, savanna, hot desert,			
		taiga and coral reef biomes [8]			
		10. Bio-geochemical cycles			
		with special reference to			
		carbon dioxide and nitrogen			
		[4]			
		11. Deforestation: Causes,			
		consequences and			
		management [4]			
		12. Biodiversity: Definition,			
		types, threats and			
		conservation measures [4]			
C	C-10 60	1. Determination of soil	КВ	45	
PRAC	CTICAL	reaction (pH) and salinity using	(TOPIC 1		
		field kit [15]	will be		
		2. Determination of soil type	shared with <b>AD</b>		
		by ternary diagram textural	in off-line		
		plotting [15]	mode)		
		3. Plant species diversity	(TOPIC 3		
		determination by matrix	will be		
		method [10]	shared with <b>SD</b>		
		4. Time series analysis of	in off-line		
		biogeography data [20]	mode)		
S	SEC 5	1. Rural Development:	AD	4	
	EORY	Concept, basic elements,		-	
		measures of level of rural			
		development [5]			

		10	2. Paradigms of rural development: Gandhian approach to rural development Lewis model of economic development, 'big push' theory of development, Myrdal's model of 'spread and backwash effects'.	KPL	8	
		10	3. Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY, MNREGA, Jan Dhan Yojana [10]	DK	8	
		5	4. Rural Governance: Panchayati Raj System and rural development policies and Programmes in India [5]	КВ	4	
IV GENERAL	GE-4 THEORY	14	<ol> <li>Maps: Classification and types. Scales: Types, significance, and applications</li> <li>[3]</li> <li>Coordinate systems: Polar and rectangular. Bearing: Magnetic and true, whole- circle and reduced [3]</li> <li>Map projections: Classification, properties and uses. Concept and significance of UTM projection [8]</li> </ol>	AD	12	
		17	4. Survey of India topographical maps: Reference scheme of old and	SD	15	

21	open series. Information on the margin of maps [4] 5. Representation of data by dots and proportional circles [4] 6. Representation of data by isopleth and choropleth [4] 7. Principal national agencies producing thematic maps in India: GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform [5] 8. Basics of Remote Sensing: Types of satellites, sensors, bands, and resolutions with special reference to the ISRO missions [10] 9. Principles of preparing standard FCCs and classified raster images [5] 10. Principles of Geographical Information System: Concepts	DK	18	
	raster images [5]			
12	<ul> <li>11. Basic concepts of surveying and survey</li> <li>equipment: Prismatic compass</li> <li>[6]</li> <li>12. Basic concepts of surveying and survey</li> <li>equipment: Dumpy level [6]</li> </ul>	DK	10	

	GE-4 PRACTICAL	10	1. Graphical construction of scales: Plain and comparative [10]	КВ	8	
		20	2. Construction of projections: Simple Conic with one standard parallel, Cylindrical Equal Area,, and Polar Zenithal Stereographic [20]	AD	18	
		20	3. Construction of thematic maps: Proportional squares, proportional circles, choropleths, and isopleths [20]	DK AND SD	15	
		10	4. Preparation of annotated thematic overlays from satellite standard FCCs of 1:50k	KPL	8	
II HONOURS	CC-3 THEORY	4	1. Nature, scope and recent trends. Elements of human geography [4]	DK	2	
		16	<ul> <li>2. Approaches to Human</li> <li>Geography: Resource,</li> <li>locational, landscape,</li> <li>environment [6]</li> <li>3. Concept and classification</li> <li>of race. Ethnicity [5]</li> <li>4. Space, society, and cultural</li> <li>regions (language and religion)</li> <li>[5]</li> </ul>	SD	15	
		6	5. Evolution of human societies: Hunting and food gathering, pastoral nomadism,	AD	5	

ГТ				1	
		subsistence farming, and			
		industrial society [6]			
	4	6. Human adaptation to	KPL	3	
		environment: Case studies of			
		Eskimo, Masai and Maori [4]			
	5	7. Population growth and	КВ	4	
		distribution, composition;			
		demographic transition [5]			
	5	8. Population–resource	DK	2	
		regions (Ackerman) [5]			
		9. Development–environment			
	5	conflict [5]		2	
	5	10. Types and patterns of rural			
	_	settlements [5]		2	
	5	11. Rural house types in India			
		[5]		2	
	5	12 Marshalam, and biorershy	AD	2 3	
	5	12. Morphology and hierarchy	AD	5	
CC-3	12	of urban settlements [5] 1. Spatial variation in	AD	10	
PRACTICAL	14	•	AD	10	
IRACIICAL		continent- or country-level			
		religious composition by			
		divided proportional circles			
	15	[12] 2. Measuring arithmetic	КВ	10	
	15	8	КВ	10	
		growth rate of population			
		comparing two decadal			
	20	datasets [15]		15	
	20	3. Types of age-sex pyramids	DK	15	
		(progressive, regressive,			
		intermediate, and stationary):			
		Graphical representation and			
		analysis [20]			

	10	4. Namest velables of states		10	Γ	]
	13	4. Nearest neighbour analysis	KPL	10		
		from Survey of India 1:50k				
		topographical maps of plain				
		region (c. 5' x 5') [13]				
CC-4	4	1. Concepts of rounding,	SD	4		
THEORY		scientific notation. Logarithm				
		and anti-logarithm. Natural				
		and log scales [4]				
	2	2. Concept of diagrammatic	AD	1		
		representation of data [2]				
	10	3. Preparation and	КВ	6		
		interpretation of geological				
		maps [5]				
		4. Preparation and				
		interpretation of weather				
		maps [5]				
	5	5. Preparation and	SD	3		
		interpretation land use land				
		cover maps [5]				
		6. Preparation and	DK	6		
	10	interpretation of socio-				
	10	economic maps [5]				
		7. Principal national agencies				
		producing thematic maps in				
		India: NATMO, GSI, NBSSLUP,				
		NHO, and NRSC / Bhuvan [5]				
		8. Basic concepts of surveying	KPL	10		
		and survey equipment:				
	10	Prismatic compass [5]				
	12	9. Basic concepts of surveying				
		and survey equipment: Dumpy				
		level [7]				

		7	10. Basic concepts of	AD	6	
		/	surveying and survey	AD	U	
			equipment: Theodolite [7]			
		5	11. Basic concepts of	DK	4	
		5	surveying and survey	DK	4	
		5	equipment: Abney level [5]	60	4	
		5	12. Basic concepts of	SD	4	
			surveying and survey			
			equipment: Laser distance			
	<b>CC 4</b>		measurer [5]		10	
	CC-4 PRACTICAL	22	1. Traverse survey using	KPL	18	
	PRACTICAL	22	prismatic compass [10]			
			2. Profile survey using dumpy			
		10	Level [12]			
		18	3. Height determination of	AD	15	
			base accessible and			
			inaccessible (same vertical			
			plane method) objects by			
			theodolite [18]			
		20	4. Interpretation of geological	КВ	18	
			maps with uniclinal structure,			
			folds, unconformity, and			
			intrusions [20]			
II	GE-2	5	1. Insolation and Heat Budget.	DK	3	
GENERAL	THEORY		Horizontal and vertical			
			distribution of atmospheric			
			temperature and pressure [5]			
		20	2. Overview of planetary wind	SD	18	
			systems. Indian Monsoons:			
			Mechanisms and controls [6]			
			3. Atmospheric disturbances:			
			Tropical and temperate			
			cyclones. Thunderstorms [7]			

	<u>4</u> 16	<ul> <li>4. Overview of global climatic change: Greenhouse effect.</li> <li>Ozone depletion [5]</li> <li>5. Scheme of world climatic classification by Köppen [2]</li> <li>6. Factors of soil formation [4]</li> <li>7. Soil profile development under different climatic conditions: Laterite, Podsol, and Chernozem [6]</li> <li>8. Physical and chemical properties of soils: Texture, structure, pH, salinity, and NPK status [6]</li> <li>9. USDA classification of soils. Soil erosion and its</li> </ul>	KPL AD	3 14	
	6	management [4] 10. Ecosystem and Biomes. Distribution and characteristics of tropical rainforest; Savannah, and hot desert biomes [6]	KPL	5	
	9	<ul> <li>11. Plant types, occurrence and ecological adaptations: Halophytes, xerophytes, hydrophytes, and mesophytes</li> <li>[5]</li> <li>12. Biodiversity: Types, threats and management with special reference to India [4]</li> </ul>	DK	7	
GE-2 PRACTICAL	20	1. Interpretation of daily weather map of India (any one): Pre-Monsoon or	SD	18	

Monsoon or Post-Monsoon [20]			
2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) [20]	КВ	18	
3. Determination of soil type by ternary diagram textural plotting [10]	DK	8	
4. Preparation of peoples' biodiversity register [10]	SD	8	

Lesson Plan for CBCS Syllabus

Subject: Geography

Session: 2020-21

SEMESTER	PAPER	CLASSES	TOPIC	NAME OF	NO. OF	<b>REMEDIAL/TUTORIAL</b>	REMARKS
		AVAILABLE		THE	LECTURES		
		(APPROX)		TEACHER			

Ι	CC-1	7	1. Earth's tectonic and	DK	6	
HONOURS	THEORY		structural evolution			
			concerning geological time			
			scale [3]			
			2. Earth's interior with special			
			reference to seismology			
		10	2. Isostasy: Models of Airy,	SD	7	
			Pratt, and their applicability [3]			
		10	3. Plate Tectonics as a unified	SB	7	
			theory of global tectonics:			
			Processes and landforms at			
			plate margins and hotspots			
			[10]			
			4. Folds and Faults—origin and			
			types. [4]			
		4	5. Degradational processes:	КВ	3	
			Weathering, mass wasting,			
			and resultant landforms [5]			
		6	6. Processes of entrainment,	KPL	5	
			transportation, and deposition			
			by different geomorphic			
			agents. Role of humans in			
			landform development [4]			
		5	7. Development of river	AD	7	
			network and landforms on			
			uniclinal and folded structures.			
			Surface expression of faults [7]			
		4	8. Development of river	DK	4	
			network and landforms on			
			granites, basalts and			
			limestones [4]			
		4	•	SD	4	
			landforms [4]			

	4	10. Glacial and glacio-fluvial processes and landforms [4]	КВ	4	
	8	11. Aeolian and fluvio-aeolian processes and landforms [4]	KPL	4	
	8	12. Role of time in geomorphology: Schumm and Lichty's model. Models on landscape evolution: Views of Davis, Penck, King, and Hack. Significance of systems approach [8]	AD	8	
CC-1 PRACTICAL	20	1. Measurement of dip and strike using clinometer [6]2. Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and (b) rock samples: Granite, basalt, dolerite, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite, marble [14]3. Extraction and interpretation of geomorphic information from Survey of India 1:50k topographical maps of plateau region:	SB	18	

		(superimposed, projected, and				
		composite).				
	15	3. Delineation of drainage	KPL	13		
		basins. Construction of relative				
		relief map, slope map				
		(Wentworth's method),				
		drainage density map, stream				
		ordering (Strahler), and				
		bifurcation ratio on a drainage				
		basin (c. 5' x 5') [35]				
		4. Construction of hypsometric				
		curve and derivation of				
		hypsometric integer of a		10		
	10	drainage basin (c. 5' x 5') from				
		Survey of India 1:50k				
		topographical maps of plateau				
		region [5]				
CC-2	8	1. Maps: Components and	DK	8		
THEORY		classification [4]				
	6	2. Concept and application of	КВ	6		
		scales: Plain, comparative,				
	-	diagonal and Vernier [8]			<u> </u>	
	2	3. Coordinate systems: Polar	AD	2		
		and rectangular [6]		_	<u> </u>	
	5	4. Concept of generating globe [2]	SB	5		
	5	5. Grids: Angular and linear	AD	5		
		systems of measurement [5]				
	4	6. Bearing: Magnetic and true,	SD	4		
		whole-circle and reduced [5]				
	8	7. Concept of geoid and	SD	8		
		spheroid with special				

I		-	1		
		reference to Everest and WGS-			
		84 [4]			
	2	8. Map projections:	SB	2	
		Classification, properties and			
		uses [8]			
	10	9. Concept and significance of	DK	8	
		UTM projection [2]			
	5	10. Representation of data	КВ	4	
		using dots, spheres and			
		divided proportional circles [5]			
		11. Representation of data			
		using isopleth, choropleth, and			
		chorochromatic maps [5]			
	6	12. Survey of India	KPL	15	
		topographical maps:			
		Reference scheme of old series			
	16	12. Survey of India	SD	20	
		topographical maps:			
		Reference scheme of open			
		series. Information on the			
		margin of maps [6]			
CC-2	16	1. Graphical construction of	КВ	15	
PRACTIC	CAL	scales: Plain, comparative,			
		diagonal and Vernier [16]			
	20	2. Construction of projections:	SB	20	
		Polar Zenithal Stereographic,			
		Simple Conic with one			02 Dame Halata
		standard parallel, Bonne's,			02 Remedial class
		Cylindrical Equal Area, and			
		Mercator's [20]			
	24	3. Thematic maps:	КВ	12	
		Proportional squares, pie			

	1			1		
			diagrams with proportional			
			circles, dots and spheres [12]			
			4. Thematic maps: Choropleth,			
			isopleth, and chorochromatic			
			maps [12]			
Ι	GE-1	3	1. Earth's interior with special	DK	3	
GENERAL	THEORY		reference to seismology [3]			
		7	2. Plate Tectonics as a unified	SB	5	
			theory of global tectonics.			
			Formation of major relief			
			features of the ocean floor and			
			continents according to Plate			
			Tectonics [7]			
		6	3. Folds and faults:	SD	5	
			Classification and surface			
			expressions [6]			
		4	4. Degradational processes:	AD	3	
			Weathering, mass wasting,			
			and resultant landforms [4]			
		12	5. Principal geomorphic	SD	10	
			agents. Classification and			
			evolution of fluvial			
			5. Principal geomorphic			
			agents. Classification and			
			evolution of coastal, aeolian,			
			and glacial landforms [12]			
		7	6. Basic models of slope	DK	6	
			evolution: Decline,			
			replacement, and retreat.			
			Systems approach and its			
			significance in geomorphology			
			[6].			
			[0].	1		

ГТ				Г		
	9	7. Global hydrological cycle: Its	KPL	9		
		physical and biological role [2]				
		8. Run off: Controlling factors.				
		Concept of ecological flow [3]				
		9. Drainage basin as a				
		hydrological unit. Principles of				
		watershed management [3]				
	15	10. Physical and chemical	AD	13		
		properties of ocean water.				
		Distribution and determinants				
		of temperature and salinity [4]				
		11. Ocean circulation, wave,				
		and tide [7]				
		12. Marine resources:				
		Classification and sustainable				
		utilisation [3]				
	20	1. Megascopic identification of	SB	20		
		mineral samples: Bauxite,				
		calcite, chalcopyrite, feldspar,				
		galena, hematite, mica, quartz,				
		talc, tourmaline [8]				
		2. Megascopic identification of				
		rock samples: Granite, basalt,				
		laterite, limestone, shale,				
		sandstone, conglomerate,				
		slate, phyllite, schist, gneiss,				
		quartzite [12]				
	20	3. Extraction of physiographic	КВ	20		
		information from Survey of				
		India 1:50k topographical				
		maps of plateau region:				
		Construction and				
		interpretation of relief profiles				
					1	

			(superimposed, projected and			
			composite), Construction and			
			interpretation of relative relief			
		20	map (c. 5'×5') [20]		20	
		20	4. Extraction of drainage information from Survey of	KPL	20	
			India topographical maps of			
			plateau region: Extraction and			
			interpretation of channel			
			features and drainage			
			patterns, Construction of			
			channel profiles [20]			
III	CC-5	20	1. Nature, composition and	КВ		
HONOURS	THEORY		layering of the atmosphere [4]			
			2. Insolation: Controlling			
			factors. Heat budget of the			
			atmosphere [6] 3.			
			Temperature: horizontal and			
			vertical distribution. Inversion		18	
			of temperature: types, causes			
			and consequences [6] 4.			
			Overview of climate change:			
			Greenhouse effect. Formation,			
			depletion, and significance of			
			the ozone layer [4]			
		20	5. Condensation: Process and	DK	18	
			forms. Mechanism of	SD		
			precipitation: Bergeron-			
			Findeisen theory, collision and			
			coalescence. Forms of			
			precipitation [6]			

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			6. Air mass: Typology, origin,			
			characteristics and			
			modification [4]			
			7. Fronts: Warm and cold,			
			frontogenesis, and frontolysis			
			[5]			
			8. Weather: Stability and			
			instability, barotropic and			
			baroclinic conditions [5]			
			9. Circulation in the			
			atmosphere: Planetary winds,			
		20	jet streams, index cycle [5]	DK		
		- 20	10. Atmospheric disturbances:	DK		
		-	Tropical and mid-latitude	AD		
			cyclones, thunderstorms [5]	SD		
			11. Monsoon circulation and			
			mechanism with reference to		18	
			India [5]			
			12. Climatic classification after			
			Thornthwaite (1955) and			
			Oliver [5]			
	CC-5	60	1. Measurement of weather	КВ	38	
	PRACTICAL		elements using analogue			
			instruments: Mean daily			
			temperature, air pressure,			
			relative humidity, and rainfall			
			[15] 2. Interpretation of a daily			
			weather map of India (any			
			two): Pre-Monsoon, Monsoon,			
			and Post-Monsoon [20] 3.			
			Construction and			
			interpretation of hythergraph			
			and climograph (G. Taylor) [15]			
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		4. Construction and			
		interpretation of wind rose			
		[10]			
CC-6	15	1. Systems approach in	КЫ	12	
THEORY		hydrology. Global hydrological			
		cycle: Its physical and			
		biological role [5] 2. Run off:			
		controlling factors. Infiltration			
		and evapotranspiration. Run			
		off cycle [5] 3. Drainage basin			
		as a hydrological unit.			
		Principles of water harvesting			
		and watershed management			
		[5]			
	5	4. Groundwater: Occurrence	DK	3	
		and storage. Factors			
		controlling recharge, discharge			
		and movement [5]			
	14	5. Major relief features of the	AD	12	
		ocean floor: Characteristics			
		and origin according to plate			
		tectonics [6] 6. Physical and			
		chemical properties of ocean			
		water [4] 7. Water mass, T–S			
		diagram [4] 8. Air-Sea			
		interactions, ocean circulation,			
		wave and tide [8]			
	18	9. Ocean temperature and	DK	15	
		salinity: Distribution and			
		determinants [4] 10. Coral			
		reefs: Formation, classification			
		and threats [5] 11. Marine			
		resources: Classification and			

		sustainable utilisation [4] 12.			
		Sea level change: Types and			
	(0)	causes [5]		40	
CC-6	60	1. Construction and	KPL	40	
PRACTICAL		interpretation of rating curves			
		[10] 2. Construction and			
		interpretation of hydrographs			
		and unit hydrographs [15] 3.			
		Construction and			
		interpretation of monthly			
		rainfall dispersion diagram			
		(Quartile method), Climatic			
		water budget and Ergograph			
		[25] 4. Construction of			
		Theissen polygon from			
		precipitation data [10]			
CC-7	120	1. Importance and significance	SB	75	
THEORY		of statistics in Geography [4] 2.			
		Discrete and continuous data,			
		population and samples, scales			
		of measurement (nominal,			
		ordinal, interval and ratio) [5]			
		3. Sources of geographical data			
		for statistical analysis [4] 4.			
		Collection of data and			
		preparation of statistical tables			
		[5] 5. Sampling: Need, types,			
		significance, and methods of			
		random sampling [4] 6.			
		Theoretical distribution:			
		Frequency, cumulative			
		frequency, normal, and			
		probability [6]			

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			7. Central tendency: Mean,			
			median, mode, and partition			
			values [6] 8. Measures of			
			dispersion range, mean			
			deviation, standard deviation,			
			and coefficient of variation [6]			
			9. Association and correlation:			
			Product moment correlation			
			and rank correlation, [5] 10.			
			Regression: Linear and non-			
			linear [5] 11. Time series			
			analysis: Moving average [5]			
			12. Hypothesis testing: Chi-			
			square test and T-test [5]			
	SEC	7	•	SD	6	
	THEORY		zone. Coastal morphodynamic		°	
	-		variables and their role in			
			evolution of coastal forms [7]			
		23	2. Environmental impacts and	KPL	20	
			management of mining, oil			
			exploration, salt			
			manufacturing, land			
			reclamation and tourism [8] 3.			
			Coastal hazards and their			
			management using structural			
			and non-structural measures:			
			Erosion, flood, sand			
			encroachment, dune			
			degeneration, estuarine			
			sedimentation and pollution			
			[8] 4. Principles of Coastal Zone			
			Management. Exclusive			
			Economic Zone and Coastal			
			LCONUMIC ZONE and COastal			

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			Regulation Zones with				
			reference to India. [7]				
		8	3. Coastal hazards and their	SB	6		
			management using structural				
			and non-structural measures:				
			Erosion, flood, sand				
			encroachment, dune				
			degeneration, estuarine				
			sedimentation, and pollution				
			[8]				
		7	4. Principles of Coastal Zone	KB	6		
			Management. Exclusive				
			Economic Zone and Coastal				
			Regulation Zones regarding				
			India. [7]				
III	GE-3	5	1. Sectors of the economy:	SB	4		
GENERAL	THEORY		Primary, Secondary, Tertiary				
			and Quaternary. Factors				
			affecting location of economic				
			activities [5]				
		15	2. Location of economic	DK	13		
			activities: Theories of von				
			Thünen, Lösch, and Weber [5]				
			3. Location of industries with				
			special reference to India:				
			Cotton, Iron and Steel [5] 4.				
			Globalisation and integration				
			of world economies [5]				
		21	5. Human Society: Structure,	AD	18		
			functions, social systems.				
			Population and migration:				
			overview, causes and effects				
			[5] 6. Types and characteristics				

				-		
		of social organisations:				
		Primitive, hunting-gathering,				
		agrarian, industrial [5] 7. Race,				
		Language and Religion: Origin,				
		17				
	20		SD	18		
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		-				
GE-3	35		SB	30		
	55		50	50		
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	15		КВ	14		
		-				
	10		KPL	7		
		- · ·				
CC-11	16		КВ	14		1
THEORY						
		significance [5]				
	GE-3 PRACTICAL	PRACTICAL       15         15       10         CC-11       16	Primitive, hunting-gathering, agrarian, industrial [5] 7. Race, Language and Religion: Origin, characteristics and spatial 	Primitive, hunting-gathering, agrarian, industrial [5] 7. Race, Language and Religion: Origin, characteristics and spatial variations [6] 8. Social Issues: Diversity, conflict and transformation [5]201. Carl Sauer: cultural landscape and its elements [6] 2. Rural and urban settlements: Differentiation in cultural landscapes [5] 3. Cultural regions and cultural realms [5] 4. Diffusion of culture and innovations [4]GE-3 PRACTICAL351. State-wise variation in occupational structure by proportional divided circles [15] 2. Time series analysis of industrial production using any two manufactured goods from India [20]KB104. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10]KPLCC-11 THEORY161. Research in Geography: Meaning, types andKB	Primitive, hunting-gathering, agrarian, industrial [5] 7. Race, Language and Religion: Origin, characteristics and spatial variations [6] 8. Social Issues: Diversity, conflict and transformation [5]SD18201. Carl Sauer: cultural landscape and its elements [6] 2. Rural and urban settlements: Differentiation in cultural landscapes [5] 3. Cultural regions and cultural realms [5] 4. Diffusion of culture and innovations [4]SD18GE-3 PRACTICAL351. State-wise variation in occupational structure by proportional divided circles [15] 2. Time series analysis of industrial production using any two manufactured goods from India [20]SB30153. Measuring arithmetic growth rate of population comparing two datasets [15]KB14104. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10]KB14CC-11 THEORY161. Research in Geography: Meaning, types andKB14	Primitive, hunting-gathering, agrarian, industrial [5] 7. Race, Language and Religion: Origin, characteristics and spatial variations [6] 8. Social Issues: Diversity, conflict andImage: Control of

		1	1	1
	2. Literature review and			
	formulation of research			
	design [5]			
	3. Defining research problem,			
	objectives and hypothesis [6]			
14	4. Research materials and	SB	12	
	methods [4]			
	5. Techniques of writing			
	scientific reports: Preparing			
	notes, references,			
	bibliography, abstract, and			
	keywords [6]			
	6. Plagiarism: Classification			
	and prevention [4]			
16	7. Fieldwork in Geographical	DK	12	
	studies: Role and significance.			
	Selection of study area and			
	objectives. Pre-field academic			
	preparations. Ethics of			
	fieldwork [6]			
	8. Field techniques and tools:			
	Observation (participant, non-			
	participant), questionnaires			
	(open, closed, structured,			
	non-structured). Interview [5]			
	9. Field techniques and tools:			
	Landscape survey using			
	transects and quadrants,			
	constructing a sketch, photo			
	and video recording [5]			
14	10. Positioning and collection	AD	12	
	of samples. Preparation of			
	inventory from field data [4]			

<b></b>				1	1	
			11. Post-field tabulation,			
			processing and analysis of			
			quantitative and qualitative			
			data [5]			
			12. Fieldwork: Logistics and			
			handling of emergencies [5]			
	CC-11	60	To be assigned after receiving		35	
	PRACTICAL		instructions from the Board of			
			Studies			
	CC-12	60	1. Principles of Remote	KPL	45	
	THEORY		Sensing (RS): Types of RS			
			satellites and sensors [5] 2.			
			Sensor resolutions and their			
			applications regarding IRS and			
			Landsat missions [5] 3. Image			
			referencing schemes and			
			acquisition procedure of free			
			geospatial data from NRSC /			
			Bhuvan and USGS [5] 4.			
			Preparation of False Colour			
			Composites from IRS LISS-3			
			and Landsat TM / OLI data. [5]			
			5. Principles of image			
			interpretation. Preparation of			
			inventories of landuse land			
			cover (LULC) features from			
			satellite images [5] 6.			
			Acquisition and utilisation of			
			free Digital Elevation Model			
			data: CartoDEM, SRTM and			
			ALOS [5]			
				KPL		
			7. GIS data structures types:	KPL		
			Spatial and non-spatial, raster			

 1					 
		and vector [5] 8. Principles of			
		preparing attribute tables,			
		data manipulation, and			
		overlay analysis [6] 9.			
		Principles and significance of			
		buffer preparation [4]			
		10. Principles and significance			
		of overlay analysis [5]			
		11. Principles of GNSS	KPL		
		positioning and waypoint			
		collection [5] 12. Principles of			
		transferring of GNSS			
		waypoints to GIS. Area and			
		length calculations from GNSS			
		data [5]			
CC-12	60	1. Image georeferencing and	KPL	45	
PRACTICAL		enhancement. Preparation of			
		reflectance libraries of LULC			
		features across different			
		image bands of IRS L3 or			
		Landsat OLI data [15] 2.			
		Supervised image			
		classification, class editing and			
		post-classification analysis [15]			
		3. Digitisation of features and			
		administrative boundaries.			
		Data attachment, overlay and			
		preparation of annotated			
		thematic maps [20] 4.			
		Waypoint collection from			
		GNSS receivers and exporting			
		to GIS database [10]			

DSE-A	15	1. The science of climate	КВ	12	
THEORY		change: Origin, scope and			
		trends [5]			
		2. Climate change with			
		reference to the geological			
		time scale [6]			
		3. Evidences and factors of			
		climate change: The nature-			
		man dichotomy [4]			
	10	4. Greenhouse gases and	SB	7	
		global warming [5]			
		5. Electromagnetic spectrum,			
		atmospheric window, heat			
		balance of the earth [5]			
	5	6. Global climatic assessment:	SD	4	
		IPCC reports [5]			
	15	7. Climate change and	DK	10	
		vulnerability: Physical;			
		economic and social [5]			
		8. Impact of climate change:			
		Agriculture and water; flora			
		and fauna; human health and			
		morbidity [5]			
		9. Global initiatives to climate			
		change mitigation: Kyoto			
		Protocol, carbon trading, clean			
		development mechanism,			
		COP, climate fund [5]			
	15	10. Climate change	AD	10	
		vulnerability assessment and			
		adaptive strategies with			
		particular reference to South			
		Asia [5]			

	11. National Action Plan on climate change [5] 12. Role of urban local bodies, panchayats, and educational institutions on climate change mitigation: Awareness and action programmes [5]			
DSE-A 10 PRACTICAL	1. Analysis of trends of temperatures (maximum and minimum of about three decades) of any India Meteorological Department (IMD) station [10]	КВ	6	
15	2. Comparative analysis of seasonal variability of rainfall on the basis of monthly data of any two IMD stations [15]	DK	10	
15	3. Annual rainfall variability of about three decades for any two representative climatic regions of India [15]	AD	10	
20	4. Preparation of an inventory of extreme climatic events and mitigation measure of any climatic region / country of South Asia for a period of one decade on the basis of secondary information [20]	SB	15	
DSE-B 30 THEORY	1. Definition, scope and content of cultural geography [5] 2. Development of cultural	SD	20	

				1
	geography in relation to allied			
	disciplines [5]			
	3. Cultural hearth and realm,			
	cultural diffusion, diffusion of			
	major world religions and			
	languages [6]			
	4. Cultural segregation and			
	cultural diversity, culture,			
	technology and development.			
	[5]			
	5. Races and racial groups of			
	the world [5]			
	6. Cultural regions of India [4]			
3	7. Rural settlement:	KB	2	
	Definition, nature and			
	characteristics [3]			
12	8. Rural settlement: Site,	AD	10	
	situation, and morphology [5]			
	9. Rural house types			
	concerning India, social			
	segregation in rural areas.			
	Census of India categories of			
	rural settlements [7]			
3	10. Urban settlement: Census	SB	2	
	of India definition and			
	categories [3]			
12	11. Urban morphology:	DK	10	
	Models of Burgess, Hoyt,			
	Harris, and Ullman. [7]			
	12. City-region and			
	conurbation. Functional			
	classification of cities:			

			Schemes of Harris, Nelson,			
			and McKenzie [5]			
	DSE-B	10	1. Mapping language	SD	8	
	PRACTICAL	10	distribution of India [10]	30	0	
	TRACTICAL	35		КВ	25	
		55	2. CD block-wise housing	КВ	25	
			distribution in any district of			
			West Bengal using			
			proportional square [20]			
			3. Identification of rural			
			settlement types from Survey			
			of India 1:50k topographical			
			maps [15]			
		15	4. Social area analysis of a city	SB	10	
			(Shevky & Bell) [15]			
V	DSE-A	60	1. Definition of region. Types	SD,AD & DK	45	
GENERAL	THEORY		and need of regional planning			
			[3] 2. Choice of a region for			
			planning; characteristics of an			
			ideal planning region;			
			delineation of planning region			
			[7] 3. Regionalization of India			
			for planning (agro-ecological			
			zones) [5] 4.			
			Strategies/models for regional			
			planning: growth pole model			
			of Perroux [6] 5. Growth			
			centre model in Indian			
			context; concept of village			
			cluster [4] 6. Problem regions			
			and regional planning;			
			backward regions and regional			
			plans: special area			
			development plans in India.			
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DVC: success and failures [5]         7. Changing concept of         development and         underdevelopment;         Efficiency-equity debate [5] 8.         Indicators of development:         Economic, social and         environmental. Concept of         human development in         India, regional inequality,         disparity and diversity [5] 10.	
development and underdevelopment; Efficiency-equity debate [5] 8. Indicators of development: Economic, social and environmental. Concept of human development [5] 9. Regional development in India, regional inequality, disparity and diversity [5] 10.	
underdevelopment;         Efficiency-equity debate [5] 8.         Indicators of development:         Economic, social and         environmental. Concept of         human development [5] 9.         Regional development in         India, regional inequality,         disparity and diversity [5] 10.	
Efficiency-equity debate [5] 8. Indicators of development: Economic, social and environmental. Concept of human development [5] 9. Regional development in India, regional inequality, disparity and diversity [5] 10.	
Indicators of development: Economic, social and environmental. Concept of human development [5] 9. Regional development in India, regional inequality, disparity and diversity [5] 10.	
Economic, social and environmental. Concept of human development [5] 9. Regional development in India, regional inequality, disparity and diversity [5] 10.	
environmental. Concept of         human development [5] 9.         Regional development in         India, regional inequality,         disparity and diversity [5] 10.	
environmental. Concept of         human development [5] 9.         Regional development in         India, regional inequality,         disparity and diversity [5] 10.	
human development [5] 9.         Regional development in         India, regional inequality,         disparity and diversity [5] 10.	
Regional development in         India, regional inequality,         disparity and diversity [5] 10.	
India, regional inequality, disparity and diversity [5] 10.	
disparity and diversity [5] 10.	
Development and regional	l
disparities in India since	
Independence: Disparities in	
agricultural development [5]	
11. Development and regional	
disparities in India since	
Independence: Disparities in	
industrial development [5] 12.	
Development and regional	
disparities in India since	
independence : Disparities in	
human resource development	
in terms of education and	
health [5]	
DSE-A 60 1. Delineation of regions SD,AD & DK 45	
PRCTICAL according to given criteria	l
using Weavers method [15] 2.	l
Determination of sphere of	l
influence by gravity model	l
[15] 3. Measurement of	
inequality by Lorenz curve and	

		location quotient [15] 4.		
		Preparation of Z score and		
		composite Index from suitable		
		data		

Lesson Plan for CBCS Syllabus

Subject: Geography

Session: 2021-22 (ONLINE MODE)

SEMESTER	UNIT	CLASSES AVAILABLE (APPROX)	ΤΟΡΙΟ	NAME OF THE TEACHER	NO. OF LECTURES	REMEDIAL/TUTORIAL	REMARKS
I HONOURS	CC-1 THEORY	7	<ol> <li>Earth's tectonic and structural evolution with reference to geological time scale [3]</li> <li>Earth's interior with special reference to seismology</li> </ol>	DK	6		
		20	<ul> <li>2. Isostasy: Models of Airy, Pratt, and their applicability</li> <li>[3]</li> <li>3. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots [10]</li> <li>4. Folds and Faults—origin and types. [4]</li> </ul>	SD	14		
		4	5. Degradational processes: Weathering, mass wasting, and	КВ	3		

	resultant landforms [5]			
6	6. Processes of entrainment, transportation, and deposition by different geomorphic agents. Role of humans in	KPL	5	
	landform development [4]			
5	7. Development of river network and landforms on uniclinal and folded structures. Surface expression of faults [7]	AD	7	
4	8. Development of river network and landforms on granites, basalts and limestones [4]	DK	4	
4	9. Coastal processes and landforms [4]	SD	4	
4	10. Glacial and glacio-fluvial processes and landforms [4]	КВ	4	
8	11. Aeolian and fluvio-aeolian processes and landforms [4]	KPL	4	

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		8	12. Role of time in		8		
			geomorphology:				
			Schumm and				
			Lichty's model.				
			Models on				
			landscape	AD			
			evolution: Views of	AD			
			Davis, Penck, King,				
			and Hack.				
			Significance of				
			systems approach				
			[8]				
	CC-1	20	1. Measurement of	KPL	18		
	PRACTICAL		dip and strike using				
			clinometer [6]	KPL			
			2. Megascopic				
			identification of (a)				
			mineral samples:				
			Bauxite, calcite,				
			chalcopyrite,				
			feldspar, galena,				
			gypsum, hematite,				
			magnetite, mica,	KB (RELIEF)			
			quartz, talc,	KPL			
			tourmaline; and (b)	(DRAINAGE)			
			rock samples:	,			
			Granite, basalt,				
			dolerite, laterite,				
			limestone, shale,				
			sandstone,		13		
		15	conglomerate,				
			slate, phyllite,				
			schist, gneiss,				
L	1	L		1	l	1	

	quartzite, marble				
	[14]				
	3. Extraction and				
	interpretation of				
	geomorphic				
	information from				
	Survey of India				
	, 1:50k topographical				
	maps of plateau				
	region:				
	Construction of				
	relief profiles				
	(superimposed,				
	projected, and				
	composite).				
15	3. Delineation of	KB (RELIEF)	13		
	drainage basins.	KPL			
	Construction of	(DRAINGE)			
	relative relief map,	. ,			
	slope map				
	(Wentworth's				
	method), drainage				
	density map,				
	stream ordering				
	(Strahler), and				
	bifurcation ratio on		10		
10	a drainage basin (c.		10		
10	5' x 5') [35]				
	4. Construction of				
	hypsometric curve				
	and derivation of				
	hypsometric integer				
	of a drainage basin				
	5	1	1	1	1

		(c. 5' x 5') from Survey of India			
		1:50k topographical maps of plateau region [5]			
CC-2 THEORY	8	1. Maps: Components and classification [4]	DK	8	
	6	2. Concept and application of scales: Plain, comparative, diagonal and Vernier [8]	КВ	6	
	2	3. Coordinate systems: Polar and rectangular [6]	AD	2	
	5	4. Concept of generating globe [2]	AD	5	
	5	5. Grids: Angular and linear systems of measurement [5]	AD	5	
	4	6. Bearing: Magnetic and true, whole-circle and reduced [5]	SD	4	
	8	7. Concept of geoid and spheroid with special reference to Everest and WGS- 84 [4]	SD	8	
	2	8. Map projections: Classification,	DK	2	

				-	
		properties and uses			
		[8]			
	10	9. Concept and	DK	8	
		significance of UTM			
		projection [2]			
	5	10. Representation	KB	4	
		of data using dots,			
		spheres and divided			
		proportional circles			
		[5]			
		11. Representation			
		of data using			
		isopleth,			
		choropleth, and			
		chorochromatic			
		maps [5]			
	6	12. Survey of India	SD	5	
		topographical			
		maps: Reference			
		scheme of old			
		series			
	16	12. Survey of India	SD	13	
		topographical			
		maps: Reference			
		scheme of open			
		series. Information			
		on the margin of			
		maps [6]			
CC-2	16	1. Graphical	КВ	15	
PRACTICAL		construction of			
		scales: Plain,			
		comparative,			

			diagonal and Vernier [16]			
		20	2. Construction of projections: Polar Zenithal Stereographic, Simple Conic with one standard parallel, Bonne's, Cylindrical Equal Area, and Mercator's [20]	AD	20	
		24	3. Thematic maps: Proportional squares, pie diagrams with proportional circles, dots and spheres [12] 4. Thematic maps: Choropleth, isopleth, and chorochromatic maps [12]	КВ	12	
I GENERAL	GE-1 THEORY	3	1. Earth's interior with special reference to seismology [3]	DK	3	
		7	2. Plate Tectonics as a unified theory of global tectonics. Formation of major relief features of	SD	5	

	the ocean floor and			
	continents			
	according to Plate			
	Tectonics [7]			
6	3. Folds and faults:	SD	5	
	Classification and			
	surface expressions			
	[6]			
4	4. Degradational	AD	3	
	processes:			
	Weathering, mass			
	wasting, and			
	resultant landforms			
	[4]			
	5. Principal	AD	10	
	geomorphic agents.	SD		
	Classification and			
	evolution of fluvial			
	5. Principal			
	geomorphic agents.			
	Classification and			
	evolution of			
	coastal, aeolian,			
	and glacial			
	landforms [12]			
	6. Basic models of	DK	6	
	slope evolution:			
	Decline,			
	replacement, and			
	retreat. Systems			
	approach and its			
	significance in			
	geomorphology [6].			

	T					I	
		9	7. Global	KPL	9		
			hydrological cycle:				
			Its physical and				
			biological role [2] 8.				
			Run off: Controlling				
			factors. Concept of				
			ecological flow [3]				
			9. Drainage basin as				
			a hydrological unit.				
			Principles of				
			watershed				
			management [3]				
		15	10. Physical and	AD	13		
			chemical properties				
			of ocean water.				
			Distribution and				
			determinants of				
			temperature and				
			salinity [4]				
			11. Ocean				
			circulation, wave,				
			and tide [7]				
			12. Marine				
			resources:				
			Classification and				
			sustainable				
			utilisation [3]				
<u> </u>	GE-1	20	1. Megascopic	KPL	20		
	PRACTICAL		identification of				
			mineral samples:				
			Bauxite, calcite,				
			chalcopyrite,				
			feldspar, galena,				
	1			1	I	1	

		hematite, mica,				
		quartz, talc,				
		tourmaline [8]				
		2. Megascopic				
		identification of				
		rock samples:				
		Granite, basalt,				
		laterite, limestone,				
		shale, sandstone,				
		conglomerate,				
		slate, phyllite,				
		schist, gneiss,				
		quartzite [12]				
	20	3. Extraction of	КВ	20		
		physiographic		-		
		information from				
		Survey of India				
		, 1:50k topographical				
		maps of plateau				
		region:				
		Construction and				
		interpretation of				
		relief profiles				
		(superimposed,				
		projected and				
		composite),				
		Construction and				
		interpretation of				
		relative relief map				
		(c. 5'×5') [20]				
	20	4. Extraction of	KPL	20		
		drainage				
		information from				
L			1		I	I]

						-	
			Survey of India				
			topographical maps				
			of plateau region:				
			Extraction and				
			interpretation of				
			channel features				
			and drainage				
			patterns,				
			Construction of				
			channel profiles				
			[20]				
II	CC-3	4	1. Nature, scope	DK	2		
HONOURS	THEORY		and recent trends.				
			Elements of human				
			geography [4]				
		16	2. Approaches to	SD	15		
			Human Geography:				
			Resource,				
			locational,				
			landscape,				
			environment [6]				
			3. Concept and				
			classification of				
			race. Ethnicity [5]				
			4. Space, society,				
			and cultural regions				
			(language and				
			religion) [5]				
		6	5. Evolution of	AD	5		
			human societies:				
			Hunting and food				
			gathering, pastoral				
			nomadism,				

	subsistence			
	farming, and industrial society			
	[6]			
4	6. Human adaptation to environment: Case studies of Eskimo, Masai and Maori [4]	KPL	3	
5	7. Population growth and distribution, composition; demographic transition [5]	КВ	4	
5	<ul> <li>8. Population–</li> <li>resource regions</li> <li>(Ackerman) [5]</li> <li>9. Development–</li> </ul>	DK	2 2	
5 5	environment conflict [5] 10. Types and		2	
	patterns of rural settlements [5] 11. Rural house types in India [5]		2	
5	12. Morphology and hierarchy of urban settlements [5]	AD	3	
-3 12 ACTICAL	1. Spatial variation in continent- or country-level	AD	10	

	15	religious composition by divided proportional circles [12] 2. Measuring arithmetic growth rate of population	КВ	10	
		comparing two decadal datasets [15]			
	20	3. Types of age-sex pyramids (progressive, regressive, intermediate, and stationary): Graphical representation and analysis [20]	DK	15	
	13	4. Nearest neighbour analysis from Survey of India 1:50k topographical maps of plain region (c. 5' x 5') [13]	KPL	10	
CC-4 THEORY	4	1. Concepts of rounding, scientific notation. Logarithm and anti-logarithm. Natural and log scales [4]	SD	4	

r					-	
	2	2. Concept of diagrammatic representation of data [2]	AD	1		
	10	<ul> <li>3. Preparation and interpretation of geological maps [5]</li> <li>4. Preparation and interpretation of weather maps [5]</li> </ul>	КВ	6		
	5	5. Preparation and interpretation land use land cover maps [5]	SD	3		
	10	<ul> <li>6. Preparation and interpretation of socio-economic maps [5]</li> <li>7. Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, and NRSC / Bhuvan [5]</li> </ul>	DK	6		
	12	<ul> <li>8. Basic concepts of surveying and survey equipment: Prismatic compass</li> <li>[5]</li> <li>9. Basic concepts of surveying and survey equipment: Dumpy level [7]</li> </ul>	KPL	10		

	7	10. Basic concepts of surveying and survey equipment: Theodolite [7]	AD	6	
	5	11. Basic concepts of surveying and survey equipment: Abney level [5]	DK	4	
	5	12. Basic concepts of surveying and survey equipment: Laser distance measurer [5]	SD	4	
CC-4 PRACTICAL	22	<ol> <li>Traverse survey using prismatic compass [10]</li> <li>Profile survey using dumpy Level [12]</li> </ol>	KPL	18	
	18	3. Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite [18]	AD	15	
	20	4. Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions [20]	КВ	18	

_				1		
II	GE-2	5	1. Insolation and	DK	3	
GENERAL	THEORY		Heat Budget.			
			Horizontal and			
			vertical distribution			
			of atmospheric			
			temperature and			
			pressure [5]			
		20	2. Overview of	SD	18	
			planetary wind			
			systems. Indian			
			Monsoons:			
			Mechanisms and			
			controls [6]			
			3. Atmospheric			
			disturbances:			
			Tropical and			
			temperate			
			cyclones.			
			Thunderstorms [7]			
			4. Overview of			
			global climatic			
			change:			
			Greenhouse effect.			
			Ozone depletion [5]			
			5. Scheme of world			
			climatic			
			classification by			
			, Köppen [2]			
		4	6. Factors of soil	KPL	3	
			formation [4]			
		16	7. Soil profile	AD	14	
		~	development under			
			different climatic			

	conditions: Laterite,			
	Podsol, and			
	Chernozem [6]			
	8. Physical and			
	chemical properties			
	of soils: Texture,			
	structure, pH,			
	salinity, and NPK			
	status [6]			
	9. USDA			
	classification of			
	soils. Soil erosion			
	and its			
	management [4]			
6	10. Ecosystem and	KPL	5	
	Biomes.			
	Distribution and			
	characteristics of			
	tropical rainforest;			
	Savannah, and hot			
	desert biomes [6]			
9	11. Plant types,	DK	7	
	occurrence and			
	ecological			
	adaptations:			
	Halophytes,			
	xerophytes,			
	hydrophytes, and			
	mesophytes [5]			
	12. Biodiversity:			
	Types, threats and			
	management with			

	1	1	1	1		
			special reference to			
		•	India [4]		10	
	GE-2 PRACTICAL	20	1. Interpretation of	SD	18	
	PRACTICAL		daily weather map			
			of India (any one): Pre-Monsoon or			
			Monsoon or Post-			
			Monsoon [20]			
		20	2. Construction and	КВ	18	
			interpretation of			
			hythergraph,			
			climograph (G.			
			Taylor) and wind			
			rose (seasonal) [20]			
		10	3. Determination of	DK	8	
			soil type by ternary			
			diagram textural			
		10	plotting [10]			
		10	4. Preparation of	SD	8	
			peoples' biodiversity register			
			[10]			
III	CC-5	20	1. Nature,	КВ		
HONOURS	THEORY	-0	composition and			
			layering of the			
			atmosphere [4] 2.			
			Insolation:			
			Controlling factors.		18	
			Heat budget of the			
			atmosphere [6] 3.			
			Temperature:			
			horizontal and			
			vertical distribution.			

		Inversion of			
		temperature: types,			
		causes and			
		consequences [6] 4.			
		Overview of climate			
		change:			
		Greenhouse effect.			
		Formation,			
		depletion, and			
		significance of the			
		ozone layer [4]			
	20	5. Condensation:	DK	18	
		Process and forms.			
		Mechanism of			
		precipitation:			
		Bergeron-Findeisen			
		theory, collision			
		and coalescence.			
		Forms of			
		precipitation [6]			
		6. Air mass:	SD		
		Typology, origin,			
		characteristics and			
		modification [4]			
		7. Fronts: Warm			
		and cold,			
		frontogenesis, and			
		frontolysis [5]			
		8. Weather:			
		Stability and			
		instability,			
		barotropic and			

		baroclinic conditions [5] 9. Circulation in the atmosphere: Planetary winds, jet streams, index cycle [5]			
	20	10. Atmospheric disturbances: Tropical and mid- latitude cyclones, thunderstorms [5]	DK	18	
		11. Monsoon circulation and mechanism with reference to India [5]	AD		
		12. Climatic classification after Thornthwaite (1955) and Oliver [5]	SD		
CC-5 PRACTICAL	60	1. Measurement of weather elements using analogue instruments: Mean daily temperature, air pressure, relative humidity, and rainfall [15] 2. Interpretation of a daily weather map of India (any two):	КВ	38	

rr				ſ	ſ	
			Pre-Monsoon,			
			Monsoon, and Post-			
			Monsoon [20] 3.			
			Construction and			
			interpretation of			
			hythergraph and			
			climograph (G.			
			Taylor) [15] 4.			
			Construction and			
			interpretation of			
			wind rose [10]			
	CC-6	15	1. Systems	KPL	12	
	THEORY		approach in			
			hydrology. Global			
			hydrological cycle:			
			Its physical and			
			biological role [5] 2.			
			Run off: controlling			
			factors. Infiltration			
			and			
			evapotranspiration.			
			Run off cycle [5] 3.			
			Drainage basin as a			
			hydrological unit.			
			Principles of water			
			harvesting and			
			watershed			
		-	management [5]		2	
		5	4. Groundwater:	DK	3	
			Occurrence and			
			storage. Factors			
			controlling			

1						
			recharge, discharge			
			and movement [5]			
		14	5. Major relief	AD	12	
			features of the			
			ocean floor:			
			Characteristics and			
			origin according to			
			plate tectonics [6]			
			6. Physical and			
			chemical properties			
			of ocean water [4]			
			7. Water mass, T–S			
			diagram [4] 8. Air-			
			Sea interactions,			
			ocean circulation,			
			wave and tide [8]			
		18	9. Ocean	DK	15	
			temperature and			
			salinity: Distribution			
			and determinants			
			[4] 10. Coral reefs:			
			Formation,			
			classification and			
			threats [5] 11.			
			Marine resources:			
			Classification and			
			sustainable			
			utilisation [4] 12.			
			Sea level change:			
			Types and causes			
			[5]			
		60	1. Construction and	KPL	40	
P	PRACTICAL		interpretation of			

CC-7 THEORY & PRACTICAL	120	rating curves [10] 2. Construction and interpretation of hydrographs and unit hydrographs [15] 3. Construction and interpretation of monthly rainfall dispersion diagram (Quartile method), Climatic water budget and Ergograph [25] 4. Construction of Theissen polygon from precipitation data [10] 1. Importance and significance of statistics in Geography [4] 2. Discrete and	AD & DK +SD	75	
THEORY &	120	Theissen polygon from precipitation data [10] 1. Importance and significance of statistics in Geography [4] 2.	&	75	
		continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio) [5] 3. Sources of			
		geographical data for statistical analysis [4] 4.			

and preparation of	
statistical tables [5]	
5. Sampling: Need,	
types, significance,	
and methods of	
random sampling	
[4] (DK)	
6. Theoretical	
distribution:	
Frequency,	
cumulative	
frequency, normal,	
and probability [6]	
7. Central tendency:	
Mean, median,	
mode, and partition	
values [6] 8.	
Measures of	
dispersion range,	
mean deviation,	
standard deviation,	
and coefficient of	
variation [6] (AD)	
9. Association and	
correlation: Product	
moment correlation	
and rank	
correlation, [5] (AD)	
10. Regression:	
Linear and non-	
linear [5] 11. Time	
series analysis:	

CC-7     7     1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and infequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the     6						
CC-7       7       1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the       6			Moving average [5]			
CC-7 PRACTICAL       7       1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouza / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the       6			12. Hypothesis			
CC-7       7       1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the       6			testing: Chi-square			
CC-7 PRACTICAL       7       1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the       6			test and T-test [5]			
PRACTICAL       data matrix with each row         representing an areal unit (districts         / blocks / mouzas /         / blocks / mouzas /         / corresponding         columns of relevant         attributes [15] 2.         Based on the         above, a frequency         table, measures of         central tendency,         and dispersion         would be computed         and frequency         using histogram         and frequency         using random,         systematic, and         systematic, and         stratified methods         of sampling and the			(SD)			
each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the		7	1. Construction of	AD	6	
representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the	PRACTICAL		data matrix with			
areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the			each row			
<pre>/ blocks / mouzas / towns) and corresponding columns of relevant attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the</pre>			representing an			
towns) and         corresponding         columns of relevant         attributes [15] 2.         Based on the         above, a frequency         table, measures of         central tendency,         and dispersion         would be computed         and interpreted         using histogram         and frequency         curve [15] 3. From         the data matrix, a         sample set (20%)         would be drawn         using random,         systematic, and         stratified methods         of sampling and the			areal unit (districts			
corresponding         columns of relevant         attributes [15] 2.         Based on the         above, a frequency         table, measures of         central tendency,         and dispersion         would be computed         and interpreted         using histogram         and frequency         curve [15] 3.         sample set (20%)         would be drawn         using random,         systematic, and         startified methods         of sampling and the			/ blocks / mouzas /			
columns of relevant         attributes [15] 2.         Based on the         above, a frequency         table, measures of         central tendency,         and dispersion         would be computed         and interpreted         using histogram         and frequency         curve [15] 3. From         the data matrix, a         sample set (20%)         would be drawn         using random,         systematic, and         stratified methods         of sampling and the						
attributes [15] 2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the			corresponding			
Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the			columns of relevant			
above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the			attributes [15] 2.			
Image: stable in table			Based on the			
Image: second			above, a frequency			
and dispersionwould be computedand interpretedusing histogramand frequencycurve [15] 3. Fromthe data matrix, asample set (20%)would be drawnusing random,systematic, andstratified methodsof sampling and the			table, measures of			
would be computed and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and theImage: Computed sample set (20%) substruct set (20%) substruct set (20%)			central tendency,			
and interpreted using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the			and dispersion			
using histogram and frequency curve [15] 3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and theImage: Comparison of the sample set (20%)			would be computed			
and frequency   curve [15] 3. From   the data matrix, a   sample set (20%)   would be drawn   using random,   systematic, and   stratified methods   of sampling and the			and interpreted			
and frequency   curve [15] 3. From   the data matrix, a   sample set (20%)   would be drawn   using random,   systematic, and   stratified methods   of sampling and the			using histogram			
the data matrix, a         sample set (20%)         would be drawn         using random,         systematic, and         stratified methods         of sampling and the						
sample set (20%)         would be drawn         using random,         systematic, and         stratified methods         of sampling and the			curve [15] 3. From			
would be drawn         using random,         systematic, and         stratified methods         of sampling and the			the data matrix, a			
using random, systematic, and stratified methods of sampling and the			sample set (20%)			
systematic, and       stratified methods       of sampling and the			would be drawn			
systematic, and       stratified methods       of sampling and the			using random,			
stratified methods of sampling and the						
of sampling and the			-			
samples would be			samples would be			

		located on a map			
		with an explanation			
		of the methods			
		used [15] 4. Based			
		on the sample set			
		and using two			
		relevant attributes,			
		a scatter diagram			
		and linear			
		regression line			
		would be plotted			
		and residual from			
		regression would			
		be mapped with a			
		short interpretation			
		[15]			
SEC	23	1. Components of a	SD	20	
THEORY		coastal zone.			
		Coastal			
		morphodynamic			
		variables and their			
		role in evolution of			
		coastal forms [7]			
	8	2. Environmental	KPL	6	
		impacts and			
		management of			
		mining, oil			
		exploration, salt			
		manufacturing, land			
		reclamation and			
		tourism [8]			
	7	3. Coastal hazards	SD	6	
		and their			

			managementucing			
			management using structural and non-			
			structural			
			measures: Erosion,			
			flood, sand			
			encroachment,			
			dune degeneration,			
			estuarine			
			sedimentation and			
			pollution [8]			
		8	4. Principles of	КВ	6	
		-	Coastal Zone		-	
			Management.			
			Exclusive Economic			
			Zone and Coastal			
			<b>Regulation Zones</b>			
			with reference to			
			India. [7]			
III	GE-3	5	1. Sectors of the	DK	4	
GENERAL	THEORY		economy: Primary,			
			Secondary, Tertiary			
			and Quaternary.			
			Factors affecting			
			location of			
			economic activities			
			[5]			
		15	2. Location of	DK	13	
			economic activities:			
			Theories of von			
			Thünen, Lösch, and			
			Weber [5] 3.			
			Location of			
			industries with			

	special reference to				
	India: Cotton, Iron				
	and Steel [5] 4.				
	Globalisation and				
	integration of world				
	economies [5]				
21	5. Human Society:	AD	18		
	, Structure,				
	functions, social				
	systems. Population				
	and migration:				
	overview, causes				
	and effects [5] 6.				
	Types and				
	characteristics of				
	social				
	organisations:				
	Primitive, hunting-				
	gathering, agrarian,				
	industrial [5] 7.				
	Race, Language and				
	Religion: Origin,				
	characteristics and				
	spatial variations				
	[6] 8. Social Issues:				
	Diversity, conflict				
	and transformation				
	[5]				
20	1. Carl Sauer:	SD	18		
	cultural landscape				
	and its elements [6]				
	2. Rural and urban				
	settlements:				
		1	1	1	

		Differentiation in cultural landscapes [5] 3. Cultural regions and cultural realms [5] 4. Diffusion of culture and innovations [4]			
GE-3 PRAC	CTICAL 35	1. State-wisevariation inoccupationalstructure byproportionaldivided circles [15](SD)2. Time seriesanalysis ofindustrialproduction usingany twomanufacturedgoods from India[20] (DK)	SD DK	30	
	15	3. Measuring arithmetic growth rate of population comparing two datasets [15]	КВ	14	
	10	4. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10]	KPL	7	

				1		
IV	CC-8	20	1. Meaning and	SD	18	
HONOURS	THEORY		approaches to			
			economic			
			geography [4]			
			2. Concepts in			
			economic			
			geography: Goods			
			and services,			
			production,			
			exchange, and			
			consumption [6]			
			3. Concept of			
			economic man.			
			Theories of choices			
			[6]			
			4. Economic			
			distance and			
			transport costs [4]			
		4	5. Concept and	DK	3	
			classification of			
			economic activities			
			[4]			
		6	6. Factors affecting	AD	6	
			location of			
			economic activity			
			with special			
			reference to			
			agriculture (von			
			Thünen), and			
			industry (Weber)			
			[6]			
		6	7. Primary	KB	4	
			activities:			

rr						1	1
			Agriculture,				
			forestry, fishing,				
			and mining [6]				
		6	8. Secondary	AD	4		
			activities:				
			Classification of				
			manufacturing,				
			concept of				
			manufacturing				
			regions, special				
			economic zones				
			and technology				
			parks [6]				
		14	9. Tertiary	SD	12		
			activities:				
			Transport, trade				
			and services [6]				
			10. Transnational				
			sea-routes, railways				
			and highways with				
			reference to India				
			[4]				
			11. International				
			trade and economic				
			blocs [4]				
		4	12. WTO and BRICS:	DK	3		
			Evolution, structure				
			and functions [4]				
CC		10	1. Choropleth	AD	8		
PR.	ACTICAL		mapping of state-				
			wise variation in				
			GDP [10]				

	15	2. State-wise	SD	10		
		variation in				
		occupational				
		structure by				
		proportional				
		divided circles [15]				
	35	3. Time series	DK	20		
		analysis of				
		industrial				
		production (India				
		and West Bengal)				
		[20]				
		4. Transport				
		network analysis by				
		detour index and				
		shortest path				
		analysis [15]				
CC-9	4	1. Regions:	КВ	3		
THEORY		Concept, types, and		-		
		delineation [4]				
	16	2. Regional	DK	14		
		Planning: Types,				
		principles,				
		objectives, tools				
		and techniques [6]				
		3. Regional				
		planning and multi-				
		level planning in				
		India [6]				
		4. Concept of				
		metropolitan area				
		and urban				
		agglomeration [4]				
			1	1	1	

1	5. Concept of	AD	14	
	growth and			
	development,			
	growth versus			
	development [6]			
	6. Indicators of			
	development:			
	Economic,			
	demographic, and			
	environmental [6]			
	7. Human			
	development:			
	Concept and			
	measurement [4]			
4	8. Theories and	KPL	4	
	models for regional			
	development:			
	Cumulative			
	causation (Myrdal)			
	[4]			
6	9. Models and	КВ	5	
	theories in regional			
	development:			
	Stages of			
	development			
	(Rostow), growth			
	pole model			
	(Perroux) [6]			
1	10.	SD	13	
	Underdevelopment:		-	
	Concept and causes			
	[4] 11. Regional			
	development in			
		<u> </u>		

		India: Disparity and			
		diversity [5]			
		12. Need and			
		measures for			
		balanced			
		development in			
		India [5]			
CC-9	60	1. Delineation of	KPL	40	
PRACTICAL		formal regions by			
		weighted index			
		method [15]			
		2. Delineation of			
		functional regions			
		by breaking point			
		analysis [15]			
		3. Measurement of			
		inequality by			
		location quotient			
		[15]			
		4. Measuring			
		regional disparity			
		by Sopher index			
		[15]			
CC-10	15	1. Factors of soil	КВ	10	
THEORY		formation [3]			
		2. Definition and			
		significance of soil			
		properties: Texture,			
		structure, and			
		moisture [5]			
		3. Definition and			
		significance of soil			
		properties: pH,			

	organic matter, and			
 	NPK [5]			
5	4. Soil profile.	DK	3	
	Origin and profile			
	characteristics of			
	lateritic, podsol and			
 	chernozem soils [6]			
4	5. Soil erosion and	SD	2	
	degradation:			
	Factors, processes			
	and management			
	measures. Humans			
	as active agents of			
	soil transformation			
 	[5]			
6	6. Principles of soil	КВ	5	
	classification:			
	Genetic and USDA.			
	Concept of land			
	capability and its			
	classification [6]			 
5	7. Concepts of	SD	2	
	biosphere,			
	ecosystem, biome,			
	ecotone,			
	community and			
	ecology [5]		2	 
5	8. Concepts of	DK	2	
	trophic structure,			
	food chain and food			
	web. Energy flow in			
	ecosystems [5]			

rr						
		20	9. Classification of	KPL	18	
			world biomes			
			(Whittaker).			
			Geographical extent			
			and characteristics			
			of tropical rain			
			forest, savanna, hot			
			desert, taiga and			
			coral reef biomes			
			[8]			
			10. Bio-geochemical			
			cycles with special			
			reference to carbon			
			dioxide and			
			nitrogen [4]			
			11. Deforestation:			
			Causes,			
			consequences and			
			management [4]			
			12. Biodiversity:			
			Definition, types,			
			threats and			
			conservation			
			measures [4]			
	CC-10	60	1. Determination of	КВ	45	
	PRACTICAL		soil reaction (pH)	(TOPIC 1 will be		
			and salinity using	shared with <b>AD</b> in off-line mode)		
			field kit [15]	(TOPIC 3 will be		
			2. Determination of	shared with SD in		
			soil type by ternary	off-line mode)		
			diagram textural			
			plotting [15]			

		<ul> <li>3. Plant species</li> <li>diversity</li> <li>determination by</li> <li>matrix method [10]</li> <li>4. Time series</li> <li>analysis of</li> <li>biogeography data</li> <li>[20]</li> </ul>			
SEC THEORY	5	1. Rural Development: Concept, basic elements, measures of level of rural development [5]	AD	4	
	10	2. Paradigms of rural development: Gandhian approach to rural development Lewis model of economic development, 'big push' theory of development, Myrdal's model of 'spread and backwash effects' [10]	KPL	8	
	10	3. Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY,	DK	8	

		5	MNREGA, Jan Dhan Yojana [10] 4. Rural Governance: Panchayati Raj System and rural development policies and Programmes in India [5]	КВ	4		
IV GENERAL	GE-4 THEORY	14	<ol> <li>Maps: Classification and types. Scales: Types, significance, and applications [3]</li> <li>Coordinate systems: Polar and rectangular.</li> <li>Bearing: Magnetic and true, whole- circle and reduced [3]</li> <li>Map projections: Classification, properties and uses. Concept and significance of UTM projection [8]</li> </ol>	AD	12		
		17	4. Survey of India topographical maps: Reference	SD	15		

	scheme of old and			
	open series.			
	Information on the			
	margin of maps [4]			
	5. Representation			
	of data by dots and			
	proportional circles			
	[4]			
	6. Representation			
	of data by isopleth			
	and choropleth [4]			
	7. Principal national			
	agencies producing			
	thematic maps in			
	India: GSI, NATMO,			
	NBSSLUP, NHO, and			
	NRSC. Acquaintance			
	with Bhuvan			
	platform [5]			
21	8. Basics of Remote	DK	18	
	Sensing: Types of			
	satellites, sensors,			
	bands, and			
	resolutions with			
	special reference to			
	the ISRO missions			
	[10]			
	9. Principles of			
	, preparing standard			
	FCCs and classified			
	raster images [5]			
	10. Principles of			
	Geographical			
	<u> </u>	1	1	

		Information			
		System: Concepts			
		of vector types,			
		attribute tables,			
		buffers, and overlay			
		analysis [6]			
	12	11. Basic concepts	DK	10	
		of surveying and			
		survey equipment:			
		Prismatic compass			
		[6]			
		12. Basic concepts			
		of surveying and			
		survey equipment:			
		Dumpy level [6]			
GE-4	10	1. Graphical	КВ	8	
PRACTICAL		construction of			
		scales: Plain and			
		comparative [10]			
	20	2. Construction of	AD	18	
		projections: Simple			
		Conic with one			
		standard parallel,			
		Cylindrical Equal			
		Area,, and Polar			
		Zenithal			
		Stereographic [20]		15	
	20	3. Construction of	DK AND SD	15	
		thematic maps:			
		Proportional			
		squares,			
		proportional circles,			

			choropleths, and			
			isopleths [20]			
		10	4. Preparation of	KPL	8	
			annotated thematic			
			overlays from			
			satellite standard			
			FCCs of 1:50k			
VI	CC-13	15	1. Development of	КВ	10	
HONOURS	THEORY		pre-modern			
			Geography:			
			Contributions of			
			Greek, Chinese, and			
			Indian geographers			
			[5]			
			2. Impact of 'Dark			
			Age' in Geography			
			and Arab			
			contributions [5] 3. Geography			
			during the age of			
			'Discovery' and			
			'Exploration'			
			(contributions of			
			Portuguese			
			voyages, Columbus,			
			Vasco da Gama,			
			Magellan, Thomas			
			Cook) [5]			
		7	4. Transition from	AD and DK	6	
			cosmography to			
			scientific			
			Geography			
			(contributions of			

	Bernard Varenius			
	and Immanuel			
	Kant). Dualism and			
	Dichotomies			
	(General vs.			
	, Particular, Physical			
	vs. Human,			
	Regional vs.			
	Systematic,			
	Determinism vs.			
	Possibilism,			
	Ideographic vs.			
	Nomothetic) [7]			
8	5. Evolution of	KPL	4	
0	Geographical		•	
	thoughts in			
	Germany, France,			
	Britain, and United			
	States of America			
	[5]			
	6. Contributions of			
	Humboldt and			
	Ritter [3]			
13	7. Contributions of	SD	10	
10	Richthofen,	50	10	
	Hartshorne–			
	Schaeffer, Ratzel, La			
	Blaché [6]			
	8. Trends of			
	geography in the			
	post World War-II			
	period:			
	Quantitative			
	Quantitative			

		revolution, systems approach [7]			
	8	<ul> <li>9. Structuralism and historical materialism [3]</li> <li>10. Changing concept of space with special reference to Harvey</li> <li>[5]</li> </ul>		6	
	10	<ul> <li>11. Evolution of</li> <li>Critical Geography:</li> <li>Behavioural,</li> <li>humanistic, and</li> <li>radical [5]</li> <li>12. Towards post</li> <li>modernism:</li> <li>Geography in the</li> <li>21st Century [5]</li> </ul>	AD	8	
CC-13 PRACTICAL	15	1. Changing perception of maps of the world (Ptolemy, Ibn Batuta, Mercator)	SD	5	
	15				

	30				
		2. Mapping voyages; Columbus, Vasco da Gama, Magellan, Thomas Cook	КВ	5	
		3. Group Presentation of five to ten students on any selected school of geographical thought (20 marks)	KPL	30	
CC-14 THEORY	4	1. Classification of hazards and disasters. Hazard continuum [4]	KPL	3	
	6	2. Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms [6]	SD	5	
	5	3. Responses to hazards: Preparedness, trauma, and aftermath. Resilience, capacity building [5]	AD	4	
	5	4. Hazards mapping: Data and geospatial techniques (for	KPL	4	

	hazards enlisted in			
	Unit II and GEO-A-			
	CC-6-14-P) [5]			
5	5. Earthquake:	AD	3	
	Factors,			
	vulnerability,			
	consequences, and			
 	management [5]			 
5	6. Landslide:	DK	3	
	Factors,			
	vulnerability,			
	consequences, and			
 	management [5]			 
5	7. Land subsidence:	КВ	3	
	Factors,			
	vulnerability,			
	consequences, and			
	management [5]			 
5	8. Tropical cyclone:	DK	3	
	Factors,			
	vulnerability,			
	consequences, and			
5	management [5]	60	2	
5	9. Flood: Factors,	SD	3	
	vulnerability,			
	consequences, and			
5	management [5] 10. Riverbank	AD	3	
3	erosion: Factors,		5	
	vulnerability,			
	consequences, and			
	management [5]			

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		5	11. Fire: Factors,	DK	3	
			vulnerability,			
			consequences, and			
			management [5]			
		5	12. Biohazard:	SD	3	
			Classification,			
			vulnerability,			
			consequences, and			
			management [5]			
	CC-14	30+30	Group Project	ALL	50	
	PRACTICAL		Report			
	DSE-A	10	1. Natural	SD	7	
	THEORY		resources: Concept			
			and classification			
			[4]			
		6	2. Approaches to	AD	4	
			resource utilization:			
			Utilitarian,			
			conservational,			
			community based			
			adaptive [6]			
		5	3. Significance of	KB	3	
			resources:			
			Backbone of			
			economic growth			
			and development			
			[5]			
		5	4. Pressure on	KPL	3	
			resources. Appraisal			
			and conservation of			
			natural resources			
			[5]			

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	7	5. Problems of	DK	3	
		resource depletion:			
		global scenario			
		(forest, water, fossil			
		fuels) [7]			
	3	6. Sustainable	SD	2	
		resource			
		development [3]			
	6	7. Distribution,	AD	4	
		utilisation,			
		problems and			
		management of			
		metallic mineral			
		resources: Iron ore,			
		bauxite, copper [6]			
	6	8. Distribution,	SD	4	
		utilisation,			
		problems and			
		management of			
		non-metallic			
		mineral resources:			
		Limestone, mica,			
	10	gypsum [6]			
	10	9. Distribution,	DK	8	
		utilisation,			
		problems and			
		management of			
		energy resources:			
		Conventional and			
		non-conventional			
		[6]			

		10. Contemporary				
		energy crisis and				
		future scenario [4]				
	3	11. Politics of	KB	2		
		power resources [3]				
	5	12. Limits to growth	KPL	4		
		and sustainable use				
		of resources.				
		Concept of resource				
		sharing [5]				
DSE-A	30	1. Mapping and	KPL	20		
PRACTICAL		area estimate of				
		changes in forest or				
		vegetation cover				
		from maps and/or				
		satellite images [15]				
		2. Mapping and				
		number estimate of				
		changes in water				
		bodies from maps				
		and/or satellite				
		images [15]				
	15	3. Decadal changes	КВ	10		
		in state-wise				
		production of coal				
		and iron ore [15]				
	15	4. Computing	SD	10		
		Human				
		Development				
		Index: Comparative				
		decadal change of				
		top five Indian				
		states [15]				

DS	E-B	5	1. Physiographic	KPL	3	
	EORY		divisions with			
			reference to			
			tectonic provinces			
			[5]			
		6	2. Climate, soil and	DK	4	
			vegetation:			
			Classification and			
			interrelation [6]			
		4	3. Population:	AD	3	
			Distribution,			
			growth, structure,			
			and policy [4]			
		5	4. Tribes of India	AD	4	
			with special			
			reference to Gaddi,			
			Toda, Santal, and			
			Jarwa [5]			
		4	5. Agricultural	KPL	3	
			regions. Green			
			revolution and its			
			consequences [4]			
		9	6. Mineral and	DK	8	
			power resources:			
			Distribution and			
			utilisation of iron			
			ore, coal,			
			petroleum, and			
			natural gas [6]			
			7. Industrial			
			development:			
			Automobile and			

 			•		
		information			
		technology [3]			
	7	8. Regionalisation	AD	5	
		of India:			
		Physiographic (R.L.			
		Singh) and			
		economic (P.			
		Sengupta) [7]			
	6	9. Physical	КВ	4	
		perspectives: Physiographic			
		divisions, forest and			
		water resources [6]			
	10	10. Resources:	SD	8	
	10	Agriculture,	50	Ū	
		mining,, and			
		industry [6] 11.			
		Population:			
		Growth,			
		distribution, and			
		human			
 		development [4]			 
	4	12. Regional issues:	КВ	2	
		Darjeeling Hills and			
 		Sundarban [4]			
DSE-B	15	1. Monthly	КВ	10	
PRACTICAL		temperature and			
		rainfall graphs of			
		five select stations from different			
		physiographic regions of India [15]			

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			15	2. Crop	SD	10	
				combination:			
				Comparison of any			
				two contrasting			
				districts from West			
				Bengal [15]			
			20	3. Annual trends of	AD	10	
				production: Mineral			
				resources and			
				manufacturing			
				goods over two			
				decades [20]			
			10	4. Composite Index:	DK	8	
				Comparison of			
				developed and			
				backward states of			
				India [10]			
VI		DSE-B	6	1. Development of	AD	4	
GENERA	AL	THEORY		Population			
				Geography as a			
				field of			
				specialization.			
				Relation between			
				population			
				geography and			
				demography.			
				Sources of			
				population data,			
				their level of			
				reliability and			
				problems of			
				mapping [6]			
			1			1	

	1			1	
6	2. Population	KB	4		
	distribution:				
	Density and growth.				
	Classical and				
	modern theories on				
	population growth,				
	Demographic				
	transition model [6]				
4	3. World patterns	DK	3		
	and determinants				
	of population				
	distribution and				
	growth. Concept of				
	optimum				
	population [4]				
4	4. Population	DK	3		
	distribution,				
	density, and growth				
	in India [4]				
5	5. Types of	AD	4		
	population				
	composition: Age-				
	sex. rural–urban,				
	literacy and				
	education [5]				
5	6. Measurements of	AD	4		
	fertility and				
	mortality. Concept				
	of cohort and life				
	table [5]				
7	7. Population	SD	5		
	composition of				
	India: Urbanisation				

	and occupational			
	structure [7]			
3	8. Migration:	KPL	2	
	Causes and types			
	[3]			
5	9. National and	SD	4	
	international			
	patterns of			
	migration with			
	reference to India			
	[5]			
5	10. Population and	DK	3	
	development:			
	Population-			
	resource regions			
	(Sekerman).			
	Concept of human			
	Development Index			
	and its components			
	[5]			
5	11. Population	DK	4	
	policies in			
	developed and less			
5		SD	4	
5	development countries. India's population policies. Population and environment, implication for the future [5] 12. Contemporary issues: Ageing of population,	SD	4	

		declining sex ratio, population and environment dichotomy, impact of HIV/AIDS [5]			
DSE-B PRACTICAL	15	1. Population projection by arithmetic method [15]	DK	10	
	15	2. Population density mapping: State-wise for India [15]	AD	10	
	15	3. Analysis of work participation rate: Total and gender- wise for India [15]	DK	10	
	15	4. Analysis occupation structure by dominant and distinctive functions: Districts of West Bengal [15]	SD	10	

## Lesson Plan for CBCS Syllabus

## Subject: Geography

Session: 2022-23

SEMESTER	UNIT	CLASSES AVAILABLE (APPROX)	ΤΟΡΙϹ	NAME OF THE TEACHER	NO. OF LECTURES	REMEDIAL/TUTORIAL	REMARKS
II	CC-3	4	1. Nature, scope	DK	2		
HONOURS	THEORY		and recent trends.				

l					
		Elements of human			
		geography [4]			
	16	2. Approaches to	SD	15	
		Human Geography:			
		Resource,			
		locational,			
		landscape,			
		environment [6]			
		3. Concept and			
		classification of			
		race. Ethnicity [5]			
		4. Space, society,			
		and cultural regions			
		(language and			
		religion) [5]			
	6	5. Evolution of	SB	5	
	-	human societies:		-	
		Hunting and food			
		gathering, pastoral			
		nomadism			
	4	5. Evolution of	AD	3	
		human societies:		-	
		subsistence			
		farming, and			
		industrial society			
		[6]			
	5	6. Human	KPL	4	
		adaptation to			
		environment: Case			
		studies of Eskimo,			
		Masai and Maori			
	5	7. Population	KB	4	
	5	growth and	ND	-	
		Browthand			

					1	
		distribution,				
		composition;				
		demographic				
		transition [5]				
	20	8. Population-	DK	3		
		resource regions				
		(Ackerman) [5]				
		9. Development-				
		environment				
		conflict [5]				
		10. Types and				
		patterns of rural				
		settlements [5]				
		11. Rural house				
		types in India [5]				
	12	12. Morphology	AD	10		
		and hierarchy of				
		urban settlements				
		[5]				
CC-3	15	1. Spatial variation	SB	10		
PRACTICAL		in continent- or	00			
		country-level				
		religious				
		composition by				
		divided				
		proportional circles				
		[12]				
	20	2. Measuring	SD	15		
		arithmetic growth	00			
		rate of population				
		comparing two				
		decadal datasets				
		[15]				
		[13]				

<b></b>					
	13	3. Types of age-sex	SB	10	
		pyramids			
		(progressive,			
		regressive,			
		intermediate, and			
		stationary):			
		Graphical			
		representation and			
		analysis [20]			
	4	4. Nearest	KPL	4	
		neighbour analysis			
		from Survey of			
		India 1:50k			
		topographical maps			
		of plain region (c. 5'			
		x 5') [13]			
CC-4	4 2	1. Concepts of	SD	1	
THEO	RY	rounding, scientific			
		notation. Logarithm			
		and anti-logarithm.			
		Natural and log			
		scales [4]			
	10	2. Concept of	AD	6	
		diagrammatic			
		representation of			
		data [2]			
	5	3. Preparation and	KB	3	
		interpretation of			
		geological maps [5]			
		4. Preparation and			
		interpretation of			
		weather maps [5]			

10	5. Preparation and	SD	6	
	interpretation land			
	use land cover			
	maps [5]			
12	6. Preparation and	DK	10	
	interpretation of			
	socio-economic			
	maps [5]			
	7. Principal national			
	agencies producing			
	thematic maps in			
	India: NATMO, GSI,			
	NBSSLUP, NHO, and			
	NRSC / Bhuvan [5]			
7	8. Basic concepts of	KPL	6	
	surveying and			
	survey equipment:			
	Prismatic compass			
	[5]			
	9. Basic concepts of			
	surveying and			
	survey equipment:			
	Dumpy level [7]			
5	10. Basic concepts	AD	4	
	of surveying and			
	survey equipment:			
	Theodolite [7]			
5	11. Basic concepts	DK	4	
	of surveying and			
	survey equipment:			
	Abney level [5]			
	12. Basic concepts	SD	18	
22	of surveying and	-		

			survey equipment: Laser distance measurer [5]			
	CC-4 PRACTICAL	18	1. Traverse survey using prismatic compass [10] 2. Profile survey using dumpy Level [12]	KPL	15	
		20	3. Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite [18]	AD	18	
		20	4. Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions [20]	КВ	18	
II GENERAL	GE-2 THEORY	5	1. Insolation and Heat Budget. Horizontal and vertical distribution of atmospheric temperature and pressure [5]	DK	3	
		20	2. Overview of planetary wind systems. Indian Monsoons:	SD	18	

· · · · · · · · · · · · · · · · · · ·				
	Mechanisms and			
	controls [6]			
	3. Atmospheric			
	disturbances:			
	Tropical and			
	temperate			
	cyclones.			
	, Thunderstorms [7]			
	4. Overview of			
	global climatic			
	change:			
	Greenhouse effect.			
	Ozone depletion [5]			
	5. Scheme of world			
	climatic			
	classification by			
	Köppen [2]			
4	6. Factors of soil	KPL	3	
	formation [4]		5	
16	7. Soil profile	AD	14	
10	development under	AD	14	
	different climatic			
	conditions: Laterite,			
	Podsol, and			
	Chernozem [6] 8. Physical and			
	chemical properties			
	of soils: Texture,			
	structure, pH,			
	salinity, and NPK			
	status [6]			
	9. USDA			
	classification of			

				I	
		soils. Soil erosion			
		and its			
		management [4]			
	6	10. Ecosystem and	KPL	5	
		Biomes.			
		Distribution and			
		characteristics of			
		tropical rainforest;			
		Savannah, and hot			
		desert biomes [6]			
	9	11. Plant types,	DK	7	
		occurrence and			
		ecological			
		adaptations:			
		Halophytes,			
		xerophytes,			
		hydrophytes, and			
		mesophytes [5]			
		12. Biodiversity:			
		Types, threats and			
		management with			
		special reference to			
		India [4]			
GE-2	20	1. Interpretation of	SD	18	
PRACTICAL	20	daily weather map	30	10	
TRICTICIL		of India (any one):			
		Pre-Monsoon or			
		Monsoon or Post-			
	20	Monsoon [20]	KD	18	
	20	2. Construction and	КВ	10	
		interpretation of			
		hythergraph,			
		climograph (G.			

			Taylor) and wind			
			rose (seasonal) [20]			
		10	3. Determination of	DK	8	
			soil type by ternary			
			diagram textural			
			plotting [10]			
		10	4. Preparation of	SD	8	
			peoples'		-	
			biodiversity register			
			[10]			
IV	CC-8	20	1. Meaning and	SD	18	
HONOURS	THEORY		approaches to	50	10	
			economic			
			geography [4]			
			2. Concepts in			
			economic			
			geography: Goods			
			and services,			
			production,			
			exchange, and			
			_			
			consumption [6] 3. Concept of			
			economic man.			
			Theories of choices			
			[6]			
			4. Economic			
			distance and			
		4	transport costs [4]	DK	3	
		4	5. Concept and	DK	3	
			classification of			
			economic activities			
			[4]			

	6	6. Factors affecting	AD	6		
	U	location of	AU	U		
		economic activity				
		with special				
		reference to				
		agriculture (von				
		Thünen), and				
		industry (Weber)				
		[6]				
	6	7. Primary	КВ	4		
		activities:				
		Agriculture,				
		forestry, fishing,				
		and mining [6]				
	6	8. Secondary	AD	4		
		activities:				
		Classification of				
		manufacturing,				
		concept of				
		manufacturing				
		regions, special				
		economic zones				
		and technology				
		parks [6]				
	14	9. Tertiary	SD	12		
		activities:				
		Transport, trade				
		and services [6]				
		10. Transnational				
		sea-routes, railways				
		and highways with				
		reference to India				
		[4]				
I		[ ד]			1	

		11. International			
		trade and economic			
		blocs [4]			
	4	12. WTO and BRICS:	DK	3	
		Evolution, structure	2	-	
		and functions [4]			
CC-	8 10		AD	8	
PRACT		1. Choropleth	AD	o	
PRACI	ICAL	mapping of state-			
		wise variation in			
		GDP [10]			
	15	2. State-wise	SD	10	
		variation in			
		occupational			
		structure by			
		proportional			
		divided circles [15]			
	35	3. Time series	SB	20	
		analysis of	50	-0	
		industrial			
		production (India			
		and West Bengal)			
		[20]			
	4	4. Transport	DK	3	
		network analysis by			
		detour index and			
		shortest path			
		analysis [15]			
CC-	9 16	1. Regions:	КВ	14	
THEO		Concept, types, and			
		delineation [4]			
	16	2. Regional	DK	14	
	10	_		14	
		Planning: Types,			

	principles,			
	objectives, tools			
	and techniques [6]			
	3. Regional			
	planning and multi-			
	level planning in			
	India [6]			
	4. Concept of			
	metropolitan area			
	and urban			
	agglomeration [4]			
4	5. Concept of	AD	4	
	growth and	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	development,			
	growth versus			
	development [6]			
	6. Indicators of			
	development:			
	Economic,			
	demographic, and			
	environmental [6]			
	7. Human			
	development:			
	Concept and			
	measurement [4]			
6	8. Theories and	<mark>KPL</mark>	5	
U U	models for regional			
	development:			
	Cumulative			
	causation (Myrdal)			
	[4]			
14	9. Models and	КВ	13	
	theories in regional			

			-		1
		development:			
		Stages of			
		development			
		(Rostow), growth			
		pole model			
		(Perroux) [6]			
	60	10.	SD	40	
		Underdevelopment:			
		Concept and causes			
		[4] 11. Regional			
		development in			
		India: Disparity and			
		diversity [5]			
		12. Need and			
		measures for			
		balanced			
		development in			
		India [5]			
СС-9	15	1. Delineation of	KPL	10	
PRACTICAL	15	formal regions by		10	
T KITCHE		weighted index			
		method [15]			
		2. Delineation of			
		functional regions			
		by breaking point			
		analysis [15]			
		3. Measurement of			
		inequality by			
		location quotient			
		<mark>[15]</mark>			
		<mark>4. Measuring</mark>			
		regional disparity			

			by Sopher index			
			[15]			
	CC-10	5	1. Factors of soil	КВ	3	
Г	ΓHEORY	-	formation [3]		•	
	_		2. Definition and			
			significance of soil			
			properties: Texture,			
			structure, and			
			moisture [5]			
			3. Definition and			
			significance of soil			
			properties: pH,			
			organic matter, and			
			NPK [5]			
		4	4. Soil profile.	DK	2	
			Origin and profile			
			characteristics of			
			lateritic, podsol and			
			chernozem soils [6]			
		6	5. Soil erosion and	SD	5	
			degradation:			
			Factors, processes			
			and management			
			measures. Humans			
			as active agents of			
			soil transformation			
			[5]			
		5	6. Principles of soil	KB	2	
			classification:			
			Genetic and USDA.			
			Concept of land			
			capability and its			
			classification [6]			

5	7. Concepts of	SB	2	
	biosphere,			
	ecosystem, biome,			
	ecotone,			
	community and			
	ecology [5]			
20	8. Concepts of	SB	18	
	trophic structure,			
	food chain and food			
	web. Energy flow in			
	ecosystems [5]			
60	9. Classification of	AD	45	
	world biomes			
	(Whittaker).			
	Geographical extent			
	and characteristics			
	of tropical rain			
	forest, savanna, hot			
	desert, taiga and			
	coral reef biomes			
	[8]			
	10. Bio-geochemical			
	cycles with special			
	reference to carbon			
	dioxide and			
	nitrogen [4]			
	11. Deforestation:			
	Causes,			
	consequences and			
	management [4]			
	12. Biodiversity:			
	Definition, types,			
	threats and			

		-		[	1
		conservation			
		measures [4]			
CC-10	5	1. Determination of	КВ	4	
PRACTICAL		soil reaction (pH)	(TOPIC 1 will be		
		and salinity using	shared with AD		
		field kit [15]	in off-line mode)		
		2. Determination of	(TOPIC 3 will be shared with <b>SD</b>		
		soil type by ternary	in off-line mode)		
		diagram textural	,		
		plotting [15]			
		3. Plant species			
		diversity			
		determination by			
		matrix method [10]			
		4. Time series			
		analysis of			
		biogeography data			
		[20]			
SEC	10	1. Rural	AD	8	
THEORY	10	Development:	<i>ND</i>	Ū	
		Concept, basic			
		elements, measures			
		of level of rural			
		development [5]			
	10	2 <mark>. Paradigms of</mark>	KPL	8	
	10	rural development:		0	
		Gandhian approach			
		to rural			
		development Lewis			
		model of economic			
		development, 'big			
		push' theory of			
		<mark>development,</mark>			

		-	Myrdal's model of 'spread and backwash effects' [10]			
		5	3. Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY, MNREGA, Jan Dhan Yojana [10]	DK	4	
		5	4. Rural Governance: Panchayati Raj System and rural development policies and Programmes in India [5]	КВ	4	
IV GENERAL	GE-4 THEORY	14	<ol> <li>Maps: Classification and types. Scales: Types, significance, and applications [3]</li> <li>Coordinate systems: Polar and rectangular. Bearing: Magnetic and true, whole- circle and reduced [3]</li> </ol>	AD	12	

		special reference to			
		the ISRO missions			
		[10]			
		9. Principles of			
		preparing standard			
		FCCs and classified			
		raster images [5]			
		10. Principles of			
		Geographical			
		Information			
		System: Concepts			
		of vector types,			
		attribute tables,			
		buffers, and overlay			
		analysis [6]			
	12	11. Basic concepts	DK	10	
		of surveying and			
		survey equipment:			
		Prismatic compass			
		[6]			
		12. Basic concepts			
		of surveying and			
		survey equipment:			
		Dumpy level [6]			
GE-4	10	1. Graphical	KB	8	
PRACTICAL		construction of			
		scales: Plain and			
		comparative [10]			
	20	2. Construction of	AD	18	
		projections: Simple			
		Conic with one			
		standard parallel,			

			Area,, and Polar			
			Zenithal			
			Stereographic [20]			
		20	3. Construction of	DK, SD	15	
		-0	thematic maps:	DR, 3D	10	
			Proportional			
			squares (DK),			
			proportional circles			
			(SD), choropleths			
			(DK), and isopleths			
			(SD) [20]			
		10	4 <mark>. Preparation of</mark>	KPL	8	
		10	annotated thematic		0	
			overlays from			
			satellite standard			
			FCCs of 1:50k			
		15	1. Development of	КВ	10	
VI	CC-13		pre-modern			
HONOURS	THEORY		Geography:			
			Contributions of			
			Greek, Chinese, and			
			Indian geographers			
			[5]			
			2. Impact of 'Dark			
			Age' in Geography			
			and Arab			
			contributions [5]			
			3. Geography			
			during the age of			
			'Discovery' and			
			'Exploration'			
			(contributions of			
			Portuguese			

		voyages, Columbus,			
		Vasco da Gama,			
		Magellan, Thomas			
		Cook) [5]			
	7	4. Transition from	AD, SD and	6	
		cosmography to	DK		
		scientific			
		Geography			
		(contributions of			
		Bernard Varenius			
		and Immanuel			
		Kant) - AD			
		. Dualism and			
		Dichotomies			
		(General vs.			
		Particular, Physical			
		vs. Human,			
		Regional vs.			
		Systematic - DK,			
		Determinism vs.			
		Possibilism - SD			
		Ideographic vs.			
		Nomothetic) – DK			
		[7]			
	8	5. Evolution of	KPL	4	
		Geographical			
		thoughts in			
		Germany, France,			
		Britain, and United			
		States of America			
		[5]			

		C Contributions of			
		6. Contributions of			
		Humboldt and			
		Ritter [3]		10	
	13	7. Contributions of	KPL, SD	10	
		Richthofen - KPL			
		, Hartshorne–			
		Schaeffer - SD			
		Ratzel, La Blaché -			
		KPL [6]			
		8. Trends of			
		geography in the			
		post World War-II			
		period: Quantitative			
		revolution, systems			
		approach – SD [7]			
	8	9. Structuralism and	DK	6	
		historical			
		materialism [3]			
		10. Changing			
		concept of space			
		with special			
		reference to Harvey			
		[5]			
	10	11. Evolution of	AD	8	
	-	Critical Geography:		-	
		Behavioural,			
		humanistic, and			
		radical [5]			
		12. Towards post			
		modernism:			
		Geography in the			
		21st Century [5]			
		Zist Century [5]			

CC-13		1. Changing	SD	5	
PRACTICAL		perception of maps			
	15	of the world			
		(Ptolemy, Ibn			
		Batuta, Mercator)			
	-	2. Mapping	КВ	5	
			KD	5	
	15	voyages; Columbus,			
		Vasco da Gama,			
		Magellan, Thomas			
	-	Cook		20	
		3. Group	SD	30	
		Presentation of five			
		to ten students on			
		any selected school			
	30	of geographical			
		thought (20 marks)			
CC-14	4	<ol> <li>Classification of</li> </ol>	KPL	3	
THEORY		hazards and			
		disasters. Hazard			
		continuum [4]			
	6	2. Approaches to	SD	5	
		hazard study: Risk			
		perception and			
		vulnerability			
		assessment. Hazard			
		paradigms [6]			
	5	3. Responses to	AD	4	
		hazards:			
		Preparedness,			
		trauma, and			
		aftermath.			
		Resilience, capacity			
		building [5]			
L	<u> </u>	2414119[2]			

1	1		1	
5	4. Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and GEO-A-	KPL	4	
5	CC-6-14-P) [5] 5. Earthquake: Factors, vulnerability, consequences, and management [5]	AD	3	
5	6. Landslide: Factors, vulnerability, consequences, and management [5]	DK	3	
5	7. Land subsidence: Factors, vulnerability, consequences, and management [5]	КВ	3	
5	8. Tropical cyclone: Factors, vulnerability, consequences, and management [5]	DK	3	
5	9. Flood: Factors, vulnerability, consequences, and management [5]	SD	3	
5	10. Riverbank erosion: Factors, vulnerability,	AD	3	

		consequences, and			
		management [5]			
	5	11. Fire: Factors,	DK	3	
		vulnerability,			
		consequences, and			
		management [5]			
	5	12. Biohazard:	SD	3	
	5	Classification,	50	5	
		-			
		vulnerability,			
		consequences, and			
	20.20	management [5]		=0	
CC-14 PRACTICAL	30+30	Group Project	GROUP 1 –	50	
PRACIICAL		Report	КΒ,		
			GROUP 2 -		
			KPL		
DSE-A	10	1. Natural	SD	7	
THEORY		resources: Concept			
		and classification			
		[4]			
	6	2. Approaches to	AD	4	
		resource utilization:			
		Utilitarian,			
		conservational,			
		community based			
		adaptive [6]			
	5	3. Significance of	КВ	3	
	2	resources:		~	
		Backbone of			
		economic growth			
		_			
		and development			
	-	[5]		2	
	5	4. Pressure on	KPL	3	
		resources. Appraisal			

rr					P	
		and conservation of				
		natural resources				
		[5]				
	7	5. Problems of	DK	3		
		resource depletion:				
		global scenario				
		(forest, water, fossil				
		fuels) [7]				
	3	6. Sustainable	SD	2		
		resource				
		development [3]				
	6	7. Distribution,	AD	4		
		utilisation,				
		problems and				
		management of				
		metallic mineral				
		resources: Iron ore,				
		bauxite, copper [6]				
	6	8. Distribution,	SD	4		
		utilisation,				
		problems and				
		management of				
		non-metallic				
		mineral resources:				
		Limestone, mica,				
		gypsum [6]				
	10	9. Distribution,	DK	8		
		utilisation,				
		problems and				
		management of				
		energy resources:				
		Conventional and				

		non-conventional				
		[6]				
		10. Contemporary				
		energy crisis and				
		future scenario [4]				
	3	11. Politics of	KB	2		
		power resources [3]				
	5	12. Limits to growth	KPL	4		
		and sustainable use				
		of resources.				
		Concept of resource				
		sharing [5]				
DSE-A	30	1. Mapping and area	KPL	20		
PRACTICAL		estimate of changes		_ •		
		in forest or				
		vegetation cover				
		from maps and/or				
		satellite images [15]				
		2. Mapping and				
		number estimate of				
		changes in water				
		bodies from maps				
		and/or satellite				
		images [15]				
	15	3. Decadal changes	КВ	10		
	10	in state-wise		Ĩ		
		production of coal				
		and iron ore [15]				
	15	4. Computing	SD	10		
	10	Human	55			
		Development				
		Index: Comparative				
		decadal change of				
I					<u> </u>	<u> </u>

			top five Indian			
			states [15]			
	DSE-B	5	1. Physiographic	DK	3	
Т	THEORY		divisions with			
			reference to			
			tectonic provinces			
			[5]			
		6	2. Climate, soil and	DK	4	
			vegetation:			
			Classification and			
			interrelation [6]			
		4	3. Population:	AD	3	
			Distribution,			
			growth, structure,			
			and policy [4]			
		5	4. Tribes of India	AD	4	
			with special			
			reference to Gaddi,			
			Toda, Santal, and			
			Jarwa [5]			
		4	5. Agricultural	SD	3	
			regions. Green			
			revolution and its			
			consequences [4]			
		9	6. Mineral and	DK	8	
			power resources:			
			Distribution and			
			utilisation of iron			
			ore, coal,			
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			natural gas [6]			
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		technology [3]			
	7	8. Regionalisation	AD	5	
		of India:		_	
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		Singh) and			
		economic (P.			
		Sengupta) [7]			
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	6	9. Physical	КВ	4	
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	10	10. Resources:	SD	8	
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	4	12. Regional issues:	KB	2	
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		five select stations			
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		15	2 (1101	50	10	
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			Comparison of any			
			two contrasting			
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			Bengal [15]			
		20	3. Annual trends of	AD	10	
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		10	4. Composite Index:	DK	8	
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			demography.			
			Sources of			
			population data,			
			their level of			
			reliability and			
			problems of			
			mapping [6]			
			ագրութ [0]			<u> </u>

[]	(	2 Demulation	KD	1	
	6	2. Population	KB	4	
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		modern theories on			
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		transition model [6]			
	4	3. World patterns	DK	3	
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		optimum			
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	4	4. Population	DK	3	
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	5	5. Types of	AD	4	
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	5	6. Measurements of	AD	4	
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	3	8. Migration:	KPL	2	
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	5	10. Population and	DK	3	
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		(Sekerman).			
		Concept of human			
		Development Index			
		and its components			
		[5]			
	5	11. Population	DK	4	
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		wise for India [15]			
	15	4. Analysis	SD	10	
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		dominant and			
		distinctive			
		functions: Districts			
		of West Bengal [15]			