MUGBERIA GANGADHAR MAHAVIDYALAYA TEACHING PLAN UNDER CBCS SYLLABUS (wef. 2017-18) <u>Department of Geography</u>

Course	Course C	Content/ Syllabus	Credit	Teacher	CA/wk	Total
SEM1						
SEM1 C1T I	<u>C1T: Ge</u>	cotectonics and Geomorphology	6			
	<u>Unit 1:</u>		2			
	1.	Earth's tectonic and structural evolution with reference to geological time scale		RP	2	30
	2.	Earth's interior with special reference to seismology. Isostasy: Models of Airy andPratt		SS	2	30
	3.	Plate Tectonics: Processes at constructive, conservative, destructive margins andhotspots; resulting landforms		SS	2	30
	4.	Folds and Faults—origin and types		SB	2	30
	<u>Unit 2:</u>		4			
	1.	Degradational processes: Weathering, mass wasting and resultant landforms		SD	2	30
	2.	Processes of entrainment, transportation and deposition by different geomorphicagents. Role of humans in landform development.		IBC	2	30
	3.	Development of river network and landforms on uniclinal and folded structures		SB	2	30
	4.	Landforms on igneous rocks with special reference to Granite and Basalt		SB	2	30
	5.	Karst landforms: Surface and sub-surface. Coastal processes and landforms.		RP	2	30
	6.	Glacial and fluvio-glacial processes and landforms; fluvio-glacial landforms		MR	2	30
	7.	Aeolian and fluvio-aeolian processes and landforms; fluvio-aeolian processes		MR	2	30
	8.	Models on landscape evolution: Views of Davis, Penck, King and Hack		IBC	2	30
	C2T: Ca	rtographic Techniques	04			
	1.	Maps: Classification and types. Components of a map.		SS	2	30
	2.	Concept and application of scales: Plain, comparative, diagonal and vernier		RP	2	30

3.	Coordinate systems: Polar and rectangular. Concept of geoid and spheroid		MR	2	30
4.	Concept of generating globe. Grids: angular and linear systems of measurement		IBC	2	30
5.	Bearing: Magnetic and true, whole-circle and reduced.		SD	2	30
6.	Map projections: Classification, properties and uses. Concept and significance of UTM projection.		IBC	2	30
7.	Basic concepts of surveying and survey equipment: Prismatic compass, dumpylevel, theodolite, Abney level, clinometer.		SB	2	30
8.	Survey of India topographical maps: Reference scheme of old and open series.Information on the margin of maps		SD	2	30
C2P : C	artographic Techniques Lab	2			
1.	Graphical construction of scales: Plain, comparative, diagonal and vernier		RP SS	2	30
2.	Construction of projections: Polar Zenithal Stereographic, Simple conic with two standard parallels, Bonne's, Cylindrical Equal Area, and Mercator's.		IBC	2	30
3.	Delineation of drainage basin from Survey of India topographical map. Construction and interpretation of relief profiles (superimposed, projected and composite), relative relief map, slope map (Wentworth), and stream ordering (Strahler) on a drainage basin.		SD MR	2	30
4.	Correlation between physical and cultural features from Survey of Indiatopographical maps. using transect chart		SB	2	30

Course	Course Content/ Syllabus	Credits	Teacher	CA/wk	Tota 1
SEM2	CC-3: Human Geography	6			
C3T					
	Unit I: Nature and Principles	2			
	Nature and scope and recent trends. Elements of Human Geography		IBC	1	15
	2. pproaches to the study of Human Geography; Resource, Locational, Landscape,Environmental		MR	1	15
	Evolution of humans. Concept of race and ethnicity		IBC	1	15
	Space, society and cultural regions (language and religion)		IBC	1	15
	Unit :II: Society, Demography and Ekistics	4			15
	1. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming, industrial and urban societies		SS	1	15
	2. Human adaptation to environment: Eskimo, Masai, Jarwa, Gaddi, Santhals.		SD	1	15
	3 Population growth and distribution, population composition; demographic transition model		SB	1	15
	4. Population–Resource regions (Ackerman)		MR	1	15
	5. Human population and environment with special reference to development—environment conflict		SD	1	15
	6. Social morphology and rural house types in India		SB	1	15
CC4	7. Types and patterns of rural settlements		RP	1	15
	8. Types and patterns of urban settlements		RP	1	15
	C4 T: Cartograms and Thematic Mapping	04			
	Concepts of rounding, scientific notation, logarithm and anti-logarithm, natural andlog scales		SS	1	15

2.	Diagrammatic representation of data: Line, Bar, and Circle		RP	1	15
3.	Representation of point data: Isopleths.		MR	1	15
4.	Representation of area data: Dots, proportional circles and choropleth		IBC	1	15
5.	Preparation and interpretation of large scale thematic maps: Geomorphologicalmaps		IBC	1	15
6.	Preparation and interpretation of large scale thematic maps: Climatological maps		SD	1	15
7.	Preparation and interpretation of large scale thematic maps: Landuse landcovermaps		SB	1	15
8.	Preparation and interpretation of large scale thematic maps: Socio-economic maps		MR	1	15
C4 P: C	artography lab	02			
1.	Traverse survey using Prismatic Compass		SD	2	30
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	Levelling by Dumpy Level and Prismatic Compass		SB	2	30
	Levelling by Dumpy Level and Prismatic Compass		SB	2	30
2.	Levelling by Dumpy Level and Prismatic Compass Thematic maps: Proportional squares, pie diagrams with proportional circles, dotsand spheres Thematic maps: Choropleth, isoline map,				30
3.	Levelling by Dumpy Level and Prismatic Compass Thematic maps: Proportional squares, pie diagrams with proportional circles, dotsand spheres		IBC	2	

Course	Course Content/ Syllabus	Credit	Teacher	CA/wk	Total
SEM3					
CC5	Climatology:	Credit 06			
	Unit I: Elements of the Atmosphere:	Credit 02			
	Nature, composition and layering of the atmosphere,		SB	1	15
	 Isolation: controlling factors. Heat budget of the atmosphere. 		SB	1	15
	3. Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.		RP	1	15
	4. Greenhouse effect and importance of ozone layer.		RP	1	15
	Unit II: Atmospheric Phenomena and Climatic Classification:	Credit 04			
	Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisentheory, collision and coalescence. Forms of precipitation.		SS	1	15
	Air mass: Typology, origin, characteristics and modification.		SS	1	15
	3. Fronts: warm and cold; frontogenesis and frontolysis.		SD	1	15
	4. Weather: stability and instability; barotropic and baroclinic conditions.		MR	1	15
	5. Circulation in the atmosphere: Planetary winds, jet stream, index cycle		IBC	1	15
	6. Tropical and mid-latitude cyclones		SD	1	15
	7. Monsoon circulation and mechanism with reference to India		IBC	1	15
	8. Climatic classification after Köppen, Thornthwaite and Oliver		MR	1	15
CC6	C6T: Statistical Methods in Geography:	Credit 04			
	Unit I	Credit 02			
	1. Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sources of data		RP SS	1	15 15
	2. Collection of data and formation of statistical tables		SD	1	15
	3. Sampling: Need, types, and significance and methods of random sampling		SS	1	15

MR 15 1 4. Theoretical distribution: frequency, cumulative frequency, normal and probability Credit 02 Unit II MR 15 1. Central tendency: Mean, median, mode, partition values SB 15 2. Measures of dispersion range, mean deviation, standard deviation, coefficient ofvariation IBC 15 3. Association and correlation: Rank correlation, product moment correlation IBC 1 15 4. Regression (linear and non-linear) and time series analysis (moving average) Credit 02 **C6 P – Statistical Methods in Geography:** RP 2 30 1. Construction of data matrix with each row representing an aerial unit (districts /blocks / mouzas / towns) and corresponding columns of relevant attributes. 2 SD 30 2. Based on the above, a frequency table, measures of central tendency and dispersionwould be computed and interpreted. MR 2 30 3. Histograms and frequency curve would be prepared on the From the data matrix a sample set (20%) would be drawn SS 2 30 using, random, and systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used. SB 2 30 4. Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be **IBC** 2 30 plotted and residual from regression would be mapped with a short interpretation. Credit 06 C7T: Geography of India: Credit 04 Unit I: Geography of India IBC 1 15 1. Tectonic and stratigraphic provinces, physiographic divisions MR 1 15 2. Climate, soil and vegetation: Characteristics and classification SB 1 15 3. Population: Distribution, growth, structure and policy SB 1 15 Distribution of population by race, caste, religion, language, tribes and their correlates

CC7

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	Agricultural regions. Green revolution and its consequences		MR	1	15
	 Mineral and power resources distribution and utilisation of iron ore, coal,petroleum, gas; 	1	RP	1	15
	7. Industrial development: Automobile and information technology		SS	1	15
	8. Regionalisation of India: Physiographic (R. L. Singh), Socio-cultural (Sopher) and Economic (Sengupta)		IBC	1	15
	Unit II: Geography of West Bengal:	Credit 02			
	Physical perspectives: Physiographic divisions, forest and water resources		SS	1	15
	2. Population: Growth, distribution and human development	;	RP	1	15
	3. Resources: Mining, agriculture and industries		SD	1	15
	4. Regional Problem: Darjeeling Hills, Jangalmahal and Sundarban		SD	1	15
SEC-1	Coastal ManagementCoastal Management				
	Coastal ManagementCoastal Management	Credit 02			
	Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms.	2	SB	1	15
	 Environmental impacts and management of mining, oi exploration, salt manufacturing, land reclamation and tourism. 		MR SS	1	15 15
	3. Coastal hazards and their management using structural and non-structural measures: Erosion, flood sand encroachment, dune degeneration, estuaring sedimentation and pollution	,	SD RP	1	15 15
	Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India.		IBC	1	15

Course	Course Content/ Syllabus	Credit	Teacher	CA/wk	Total
SEM4	RegionalPlanningandDevelopment	Credit 6			
CC8	UnitI:RegionalPlanning	Credit 2			
	1. Concept of regions: Types of regions and their delineation.		RP	1	15
	2. Types of planning, principles and objectives of regional planning, multi-level planning in India		IBC	1	15
	3. Tools and techniques of regional planning, need for regional planning in India		MR	1	15
	Metropolitan concept: metropolitan areas, and urban agglomerations		SS	1	15
	UnitI:RegionalDevelopment	Credit 4			
	1. Development: Meaning, growth versus development		RP	1	15
	2. Concept and strategies of regional development with reference to India		MR	1	15
	3. Theories and models for regional development: Growth pole model of Perroux; growth centre model in Indian context		SS	1	15
	4. Theories and models for regional development: Cumulative causation(Myrdal) and core periphery (Hirschman, Rostovand Friedman)		SD	1	15
	5. Changing concept of development, concept of underdevelopment; efficiencey Equity debate		SB	1	15
	6. Indicators of development: Economic, social and environmental. Human development.		MR	1	15
	7. Regional development in India, regional inequality, disparity and diversity		IBC	1	15
	8. Need and measures for balanced development in India		IBC	1	15
CC9					
	CC-9:EconomicGeography	Credit 6			
	C9T:EconomicGeography	Credit 2			
	UnitI:Concepts				
	Meaning and approaches to Economic Geography, new Economic Geography		IBC	1	15
	Concepts in Economic Geography: Goods and services, production, exchange and consumption		MR	1	15

	3. Concept of economic man, theories of choices		IBC	1	15
	Economic distance and transport costs		SS	1	15
	UnitII:EconomicActivities	Credit 4			
	1. Concept and classification of economic activities		RP	1	15
	 Factors affecting location of economic activity with special reference to agriculture(VonThunen), and industry (Weber). 		SS	1	15
	3. Primary activities: Subsistence and commercial agriculture, forestry, fishing and mining		SD	1	15
	4. Secondary activities: Manufacturing (cotton textile, iron and steel), concept of manufacturing regions, special economic zones and technology parks		SB	1	15
	5. Tertiary activities: transport, trade and services		SB	1	15
	6. Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe		RP	1	15
GGIA	7. Transnational sea-routes, railways and highways with reference to India	SS 1 Credit 4 RP 1 SS 1 SD 1 SB 1 RP 1 SB 1 RP 1 SD 1 MR 1 Credit 06 RP 1 SD 1 MR 1 SD 1 SD 1 MR 1 SD 1 IBC 1 IBC 1 IBC 1	15		
CC10	8. International agreements and trade blocs: GATT and OPEC		MR	1	15
	CC-10:EnvironmentalGeography	Credit 06			
	C10T:EnvironmentalGeography	Credit04			
	1. Geographers' approach to environmental studies		RP	1	15
	2. Perception of environment in different stages of civilization		SD	1	15
	3. Concept of holistic environment and system approach		SB	1	15
	4. Ecosystem: Concept, structure and functions		MR	1	15
	Environmental pollution and degradation: Land, water and air		SS	1	15
	6. Space—time hierarchy of environmental problems: Local, regional and global		IBC	1	15
	7. Urban environmental issues with special reference to waste management		IBC	1	15
	8. Environmental programmes and policies – Global, national and local levels		MR	1	15
	C10: Environment Geography Lab	Credit 02			

	A Project File, comprising one exercise each is to be submitted				
	Preparation of questionnaire for perception survey on environmental problems		IBC	2	30
	2. Preparation of check list for Environmental Impact Assessment of an urban/ industrial project		MR	2	30
	3. Quality assessment of soil using field kit: pH and NPK		SB	2	30
	4. Interpretation of air quality using CPCB/ WBPCB data		SS	2	30
SEC 2	SEC-2: Research Methods	Credit 02			
	Geographic Enquiry: Definition and Ethics; Literature Review; Framing Research Questions, Objectives and Hypothesis; Preparing Sample Questionnaires and inventories		IBC	1	15
	2. Data Collection: Type and Sources of Data; Methods of data Collection; Data Input and Editing		RP SS	1	15 15
	3. Data Analysis: Qualitative and Quantitative Analysis; Techniques Data Representation		MR	1	15
	4. Structure of a Research Report: Preliminaries; Text;		SB	1	15

Course	Course Content/ Syllabus	Credits	Teacher	CA/wk	Total
SEM 5		Credits 06			
	CC-11: Field Work and Research Methodology	G 11: 0.1			
CC-11	C11T: Field Work and Research Methodology	Credits 04			
	Unit I: Research Methodology	Credits 02			
	1. Research in Geography: Meaning, types and significance		RP	1	15
	Literature review and formulation of research design		SD	1	15
	Defining research problem, objectives and hypothesis. Research materials andmethods		MR	1	15
	4. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords		SS	1	15
	Unit II: Fieldwork	Credits 02			
	Fieldwork in Geographical studies – Role and significance. Selection of study area and objectives. Prefield preparations. Ethics of fieldwork		IBC	1	15
	Field techniques and tools: Observation (participant, non participant), questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions.		IBC	1	15
	3. Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording.		SB	1	15
	Positioning and collection of samples. Preparation of inventory from field data. Post-field tasks.		SS	1	15
	C11P: Research Methodology and Field Work Lab : Practical Record	Credits 02			
	Field report based on primary data collected form field survey and secondary data collected from different sources for either a rural area (<i>mouza</i>) or an urban area (municipal ward) based on cadastral or municipal maps to study specific problems.		IBC, MR, SB, RP, SS, SD	6	90
CC12	C12T: Remote Sensing and GIS	Credits 04			
	Unit I: Remote Sensing	Credits 02			
	Principles of Remote Sensing (RS): Types of RS satellites and sensors		RP	1	15

	2. Sensor resolutions and their applications with reference to IRS and Landsatmissions, image referencing schemes and data acquisition.		SD	1	15
	Preparation of False Colour Composites from IRS LISS-3 and Landsat TM andOLI data.		SS	1	15
	Principles of image interpretation. Preparation of inventories of landuse land cover(LULC) features from satellite images.		SB	1	15
	Unit II: Geographical Information Systems and Global Navigation Satellite System	Credits 02			
	GIS data structures: types (spatial and non-spatial), raster and vector		MR	1	15
	Principles of preparing attribute tables, data manipulation and overlay analysis		IBC	1	15
	3. Principles of GNSS positioning and waypoint collection		IBC	1	15
	Transferring of waypoints to GIS. Area and length calculations from GNSS data.		MR	1	15
	C12 P: Remote Sensing and GIS Lab	Credits 02			
	 Georeferencing of maps and images, Image enhancement. Preparation of reflectance libraries of LULC features acrossdifferent image bands of IRS L3 or Landsat OLI data, Image classification, post-classification analysis and class editing, Digitisation of features. Data attachment, overlay and preparation of thematic map 		MP	6	90
DSC1	DSE-1: Hydrology and Oceanography	Credits 06			
	Hydrology	Credits 02			
	Systems approach in hydrology. Global hydrological cycle: Its physical andbiological role		RP	1	15
	Run off: controlling factors. Infiltration and evapotranspiration. Run off cycle		MR	1	15
	Drainage basin as a hydrological unit. Principles of water harvesting and watershedmanagement		SS	1	15
	 Groundwater: Occurrence and storage. Factors controlling recharge, discharge andmovement. 		SD	1	15
	Oceanography	Credits 04			
	Major relief features of the ocean floor: characteristics and origin according toplate tectonics.		SS	1	15

	2.	Physical and chemical properties of ocean water		MR	1	15
DSE-2	3.	Water mass, T–S diagram		SD	1	15
	4.	Air-Sea interactions, ocean circulation, wave and tide.		SB	1	15
	5.	Ocean temperature and salinity: Distribution and determinants.		IBC	1	15
	6.	Coral reefs: Formation, classification and threats.		RP	1	15
	7.	Marine resources: Classification and sustainable utilisation		IBC	1	15
	8.	Sea level change: Types and causes		SD	1	15
DSE-2	DSE-2: 1	Resource Geography	Credits 06			
	Resourc	e GeographyUnit I	Credits 03			
	1.	Natural Resources: Concept and classification		SB	1	15
	2.	Approaches to Resource Utilization: Utilitarian, Conservational, Community basedadaptive		SD	1	15
	3.	Significance of Resources: Backbone of Economic growth and development		IBC	1	15
	4.	Pressure on resources. Appraisal and Conservation of Natural Resources		RP	1	15
	5.	Problems of resource depletion—global scenario (forest, water, fossil fuels).		MR	1	15
	6.	Sustainable Resource Development		SS	1	15
	Unit II		Credits 03			
	1.	Distribution, Utilisation, Problems and Management of Metallic Mineral Resources: Iron ore, Bauxite, copper		MR	1	15
	2.	Distribution, Utilisation, Problems and Management of Non-Metallic Mineral resources: Limestone, Mica, Gypsum		SB	1	15
	3.	Distribution, Utilisation, Problems and Management of Energy Resources:Conventional and Non-Conventional		SS	1	15
	1	Contemporary Energy Crisis and Future Scenario		IBC	1	15
	4.					
	5.	Politics of Power resources		IBC	1	15

Course	Course Content/ Syllabus	Credit	Teacher	CA/wk	Total
SEM 6	CC-13T :Evolution of Geographical Thought	Credits 06			
CC-13	Unit I: Nature of Pre Modern Geography	Credit 04			
	Development of Geography and contributions of Greek, Chinese, and Indian geographers.		MR	1	15
	2. Impact of 'DarkAge' on Geography and Arab contributions		RP	1	15
	3. Geography during the Age of 'Discovery' and 'Exploration' (Contributions of Portuguese Voyages, Columbus, Vasco da Gama, Magellan, Thomas Cook)		IBC	1	15
	4. Transition from 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. Nomeothetic)		SS	1	15
	Unit II: Foundation of Modern Geography and Recent Trends	Credits 2			
	Evolution of Geographical thoughts in Germany, France, Britain and United States of America.		RP	1	15
	2. Contributions of Humboldt and Ritter		SD	1	15
	3. Contributions of Richthofen, Hettner and Ratzel		SB	1	15
	4. Schools of geographical thought: French ,British and American;		MR	1	15
	5. Trends of Geography in the post World War-II period		SB	1	15
	6. Evolution of Geography in India: formative periods, establishments and emerging trends		SD	1	15
	7. Quantitative Revolution and its impact, behaviouralism, systems approach, radicalism, feminism		RP	1	15
			SS	1	15
	8. Towards Post Modernism: Changing concept of space in geography. Geography in the 21st Century		IBC	1	15
CC14	CC-14: Disaster Management	Credits 06			
	Unit I : Disaster Management	Credit 02			

	Classification of hazards and disasters.		RP	1	15
	1. Classification of nazards and disasters.		I CI	1	
	Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms.		IBC	1	15
	Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacitybuilding.		IBC	1	15
	4. Hazards mapping: Data and techniques.		MR	1	15
	Unit II: Disaster Case	Credits 02			
	Studies	Credits 02			
	Earthquake: Factors, consequences and management		SB	1	15
	2. Landslide: Factors, consequences and management		MR	1	15
	3. Cyclone: Factors, consequences and management		SD	1	15
	4. Fire: Factors, consequences and management		SB	1	15
	C14P: Disaster Management based Project Work	Credits 2	IBC, MR, SB, RP, SD, SS	6	90
DSE-3	DSE-3T: Population Geography	Credits 06			
	Unit I	Credits 02			
	Development of 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.		IBC	1	15
	Population distribution: density and growth. Classical and modern theories in population distribution and growth, Demographic transition model.		SS	1	15
	3. World patterns determinants of population distribution and growth. Concept of optimum population.		SB	1	15
	4. Population distribution, density and growth profile in India.		SB	1	15
	Unit II	Credits 04			
	Population Composition and Characteristics— Age-Sex Composition; Rural and Urban Composition; Literacy.		MR	1	15

	2.	Measurements of fertility and mortality. Concept of cohort and life table		IBC	1	15
	3.	Population composition of India. Urbanisation, Occupational structure.		MR	1	15
	4.	Migration: Causes and types		RP	1	15
	5.	National and international patterns of migration with reference to India.		RP	1	15
	6.	Population and development: population-resource regions. Concept of humandevelopment index and its components.		SS	1	15
	7.	Population policies in developed and less development countries.		SD	1	15
	8.	Contemporary Issues – Ageing of Population; Declining Sex Ratio; Population andervironment dichotomy, HIV/AIDS.		SD	1	15
DSE-4	DSE-4T:	Urban Geography	Credits 06			
	Unit I		Credits 03			
	1.	Urban Geography: nature and scope, different approaches and recent trends inurban geography		RP	1	15
	2.	Origin of urban places in Ancient, Medieval, Modern and Post-Modern periods-factors, stages, and characteristics.		MR	1	15
	3.	Theories of Urban Evolution and Growth: Hydraulic Theory, Economic Theory		IBC	1	15
	4.	Aspects of urban places: Location, site and situation, Size and Spacing of Cities:The Rank Size Rule, The Law of the Primate City		SS	1	15
	5.	Urban Hierarchies : Central Place Theory; August Loch's theory of Market Centres		SD	1	15
	6.	Patterns of urbanisation in developed and developing countries		SB	1	15
	Unit II		Credits 03			
	1.	Ecological processes of urban growth; Urban fringe; City- Region		IBC	1	15
	2.	Theories of city structure-concentric zone theory, sector theory, multiple nucleitheory		SS	1	15
	3.	Urban Issues: problems of housing, slums, civic amenities (water and transport)		RP	1	15
	4.	Patterns and trends of urbanization in India		SB	1	15
	5.	Policies on urbanization. Urban change/landscape in post- liberalized period inIndia		MR	1	15
	6.	Case studies of Delhi, Kolkata, and Chandigarh with reference to land use		SD	1	15