

GOUR MAHAVIDYALAYA
DEPARTMENT OF GEOGRAPHY



**Syllabus Distribution and Curriculum Plan of Four
Year UG Program (FYUGP)**

Session:- 2026-27

ODD SEMESTERS (July-December)

(I, III, V, and VII)

SEM-I (Major)

Course	Unit	Topic	Teacher	Period	Exp no of Class
GEO-DC-MJ-101A (Theory)					
GEO-DC-MJ-101A GEOTECTONICS (Theory)	Module: -1: Origin of the universe, solar system and Earth's evolution	i) Tidal hypothesis	ST	July-Aug	4
		ii) Big Bang theory			3
		iii) Tectonic and structural evolution of the earth with special reference to the geological time scale	SP		4
	Module: -2: Earth's Interior, Minerals and Rocks	i) Understanding earth's interior with the help of seismological evidences	SP	Aug-Sep	3
		ii) Concept of Mineral and rocks: types, formation and characteristics	PG	July-Aug	6
	Module: -3: Dynamic Earth	i) Isostasy: Theory of Airy and Pratt; Isostatic adjustments, and distribution of gravity anomalies.	DM	July-Aug	5
		ii) Continental drifting (Alfred Wegener), and seafloor spreading	SG	July-Aug	5
		iii) Plate tectonics; concept of neo-tectonics;	PD	July-Aug	7
		iv) Mountain building theories: Kober and A. Holmes	PD		
	Module: -4: Endogenetic process and landforms	i) Earthquake: causes and consequences	ST	Sep	3
		ii) Volcanoes: causes, types and consequences	DM	Sep	3
		iii) Folding and faulting: concept, components, types and resulting landforms.	SG	Sep	3
GEO-DC-MJ-101B Geotectonics (PRACTICAL) (01(Practical) (01))	Module: -1: Introduction to Map Scale	i) Concept and type of scale	PD (Upto Diagonal) ST (From Vernier)	Sep-Oct	5
		ii) Scale conversion; statement scale, ratio Scale (R.F.), graphical Scale (linear, comparative, diagonal and positive vernier);		Sep-Oct	5
	Module: -2: Minerals and Rocks	iii) Enlargement and reduction of map (Mathematical)			
		ii) Identification of Mineral Specimens and their characteristics (Megascopic study): quartz, bauxite, chalcopryrite, feldspar, galena, calcite, hematite, magnetite, mica, and talc.	PG	Sep-Oct	5
		ii) Identification of Rock specimens and their characteristics (Megascopic study):	SG	Sep-Oct	5

		Sandstone, limestone, shale, basalt, granite, pegmatite, gneiss, marble, quartzite, conglomerate,			
	Module: -3: Geological Maps	i) Concepts of geological map ii) Construction of geological section (horizontal, uniclinal and folded structures with unconformities and intrusions) iii) Interpretation of prepared geological section	SP DM	Sep-Oct Sep-Oct	6 3

Note: ST= Dr. Syfujjaman Tarafder, SP= Satyajit Paul, PD= Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.

SEM-I (SEC)**Paper Name: Introduction to Mapping in Geography
(GEO-SEC- 01)**

Course	Unit	Topic	Teacher	Period	Exp no of Class
GEO-DC-MJ-101A (Theory)					
Computer Applications in Geography (GEO-SEC- 02)	Module 1: Map as a tool of Geography (15 Hours)	i) Definition, scope, history, types and significance of map in geography.	ST	Nov	4
		ii) Elements of a map: title, legend, Northline, symbols and scale.			
		iii) Introduction to map projections and coordinate systems and application.	PG	Nov	5
		iv) Applications of Map: Urban Planning, Environmental and disaster Management			
	Module 2: Conventional Map Reading Skill and applications (15 Hours)	i) SoI Toposheets ii) Atlas map iii) Cadastral Map	PD	Nov	6
	Module 3: Digital Map Reading Skill and applications (20 Hours)	i) Bhuvan Portal ii) Google Earth and Google Map iii) Navigation/GPS Map (GNSS, GLONASS, NavIC)	SP	Nov	6
	Module 4: Application and preparation thematic maps (40 Hours)	i) Thematic map: Choropleth, Isopleth	DM	Nov	6
		ii) Thematic Map: Pie, Dot and Sphere iii) Landuse/Landcover map: Chorochromatic map	SG	Nov	6

Note: ST= Dr. Syfujjaman Tarafder, SP= Satyajit Paul, PD= Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.

SEM-I (Minor)

Course	Unit	Topic	Teacher	Period	Exp no of Class
GEO-DC-MJ-101A (Theory)					
GEO-D C-MJ-1 01A GEOTE CTONI CS (Theory)	Module: -1: Origin of the universe and solar system	i) Big bang theory	ST	July-Aug	4
		ii) Classical theories regarding origin of the solar system: Monastic and dualistic concepts			3
		iii) Tidal hypothesis	SP		4
	Module: -2: Interior of the Earth	i) Direct and indirect sources understanding the earth's interior	SP	Aug-Sep	3
		ii) Seismology and seismic waves			
	Module: -3: Origin of the continents, oceans and mountains	iii) Earth's interior with special reference to seismological evidences	PG	July-Aug	6
		i) Continental drift theory after Alfred Wegner	DM	July-Aug	5
		ii) Plate Tectonic Theory	SG	July-Aug	5
		iii) Geosyncline Theory of Kober	PD	July-Aug	5
	Module: -4: Endogenetic process and landforms	i) Volcanoes: Concept and types	ST	Sep	3
		ii) Folding: Concept, classification and resulting landforms	DM	Sep	3
		iii) Faulting: Concept, classification and resulting landforms	SG	Sep	3
GEO-D C-MJ-1 01B Geotecto nics (PRACT ICAL) (01(Prac tical) (01)	Module: -1: Map Scale	i) Concept of Map scale	PD (upto Conver sation) ST	Sep-Oct	5
		ii) Scale Conversion		Sep-Oct	5
	Module: -2: Identificatio n of Minerals & Rocks	iii) Construction of plain and comparative linear scale			
		i) Concept of Minerals	PG	Sep-Oct	5
	Module: -3: Understandi ng of Geological Map	ii) Concept of Rocks			
		iii) Megascopic identification of Minerals (quartz, chalcopryrite, galena, calcite, mica, and talc) and Rocks (Sandstone, shale, basalt, granite, gneiss, marble, quartzite and conglomerate).	SG	Sep-Oct	5
		i) Concept and importance of Geological map	SP	Sep-Oct	6
		ii) Construction of Geological Section (with given dip and direction in Horizontal, uniclinal and folded structure).	DM		
		iii) Interpretation of the prepared geological section		Sep-Oct	3

Note: ST= Dr. Syfujjaman Tarafder, SP= Satyajit Paul, PD= Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.

SEM-III (Major)

Course	Unit	Topic	Teacher	Period	Exp no of Class
GEO-DC-MJ-301A (Theory)					
GEO-D C-MJ-3 01A: CLIMA TOLOG Y (Theory)	Module: -1: Atmosphere, energy and temperature	i) Atmosphere: Origin, structure and composition ii) Energy and Temperature in the Atmosphere: Insolation, heat budget, iii) Horizontal and vertical distribution of temperature; iv) Inversion of temperature- concept, types, causes and consequences.	ST	July - Aug	3 2 2 1
	Module: -2: Stability, Cloud development and precipitation	i) Atmospheric stability and instability ii) condensation, and precipitation-processes and forms; iii) Mechanisms of precipitation- Bergeron-Findeisen theory, and collision and coalescence theory.	SP	July- Aug	1 3 2
	Module: -3: Atmospheric Circulation and climatic classification	i) Pressure belts and Planetary winds, jet streams ii) Indian monsoon: mechanisms (Thermal Engine theory and Jet Stream Theory) and impacts iii) Ocean- atmosphere interaction (El-Nino, La-Nina, ENSO, MJO). iv) Climatic classification: Basis and scheme after Köppen and Thornthwaite (1931 &1948).	PD PG	July - Aug	3 2 3 3
	Module: -4: Weather Disturbances	i) Air mass: Concept, origin and classification; ii) Fronts- frontogenesis and frontolysis, typology, and associated weather conditions. iii) Cyclone: Origin, characteristics, and impacts (tropical and mid-latitude cyclones), Super cyclones in Bay of Bengal (Aila and Amphan).	DM SG	August	2 2 4
GEO-D C-MJ-3 01B CLIMA TOLOG Y	Module -1: Measurement of weather elements by meteorological instruments	i) Hygrometer ii) Maximum-minimum thermometer iii) Fortin's barometer iv) Rain gauge (Simon's), v) Anemometer and wind vane	SP DM DM	Aug- Sep	2 2 2

(PRACTICAL) (01)					4
	Module -2: Preparation of climatic graphs and charts	i) Taylor's Climograph, and Hythergraph ii) Star Diagram iii) Ergograph iv) Synoptic station model	SG PD PD PG	Aug-Sep	2 2 2 2
	Module-3: Interpretation of Indian daily weather map	i) Pre-monsoon, Monsoon and Post-monsoon: Temperature, pressure, Sky condition, wind direction and speed, Sea condition and other weather phenomena.	ST	Aug-Sep	10
GEODC-MJ-302A (Theory)					
GEO-D C-MJ-3 02A: HUMAN GEOGRAPHY (Theory)	Module: -1: Introduction to Human Geography and	i) Nature, scope, approaches, elements, and recent trends. ii) Concept of space and society iii) Concept of race and ethnicity, evolution; major human races of the World (Huxley) and India (Guha & Risley).	SP PG	July-Aug	2 1 4
	Module: -2: Evolution of human societies and Culture	i) Hunting and food gathering, pastoral nomadism, subsistence farming, industrial and urban societies. ii) Culture: Concept and type iii) Cultural hearth and Cultural regions (language and religion).	ST	July-Aug	2 1 2
	Module: -3: Human adaptation to the environment	i) Eskimo, Masai ii) Gond, Toda, Jarawa, and Khasi.	DM	July-Aug	4
	Module: -4: Population-Resource Relationship & Human Development	i) Underpopulation, overpopulation, optimum population; population-resource region of the World (Ackerman) and India (P. Sen Gupta). ii) HDI, GDI and GII: Concept and measure	SG PD	Aug	2 3
	Module: -1: Identification of human race	i) Cephalic Index ii) Nasal Index iii) Facial Index	DM SG	Aug-Sep	2 2
GEO-D C-MJ-3 02B HUMAN GEOGRAPHY (Practical) (01)	Module: -2: Measures of spatial distribution and interaction	i) Population potential ii) Mean centre of population	ST SP	Aug-Sep	2 2
	Module: -3: Measures of Human Development	i) HDI (UNDP 2014) ii) GDI (UNDP 2014) iii) Gender Inequality Index (GII).	PD PG	Aug-Sep	2 2 2

Note: ST= Dr. Syfujjaman Tarafder, SP= Satyajit Paul, PD= Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.

SEM-III

Paper Name: Basics of Cadastral Surveying (GEO-SEC- 03)

Course	Unit	Topic	Teacher	Period	Exp no of Class
Basics of Cadastral Surveying (GEO-SEC- 03)	Module 1: Introduction to Land and Land Records (20 Hours)	i) Concept of land and land revenue system: Definition and importance of land in the revenue system.	ST	Nov-Dec	5
		ii) Classification and Nature of Land: Types of land and their characteristics. iii) Land Rights and Land Deed: Understanding ownership, tenure, and legal documentation. iv) Introduction to digital land record systems Integrated Land Record Management System (ILRMS)	SP	Nov-Dec	5
	Module 2: Cadastral Maps and Their Uses (25 Hours)	i) Cadastral Map: Concept, Objectives, and Characteristics	DM	Nov-Dec	6
		ii) Uses of Cadastral Maps: Applications in land management and dispute resolution. iii) Evolution of Cadastral Mapping in India: Historical development and reforms. iv) Types and Scale of Cadastral Maps: Different map types, their scales, and selection criteria	SG	Nov-Dec	6
	Module 3: Cadastral Map Terminology and Mapping Methodology (25 Hours)	i) Key Terminology: Quadrilaterals, triangulation, J.L number, Plot number	SG	Nov-Dec	7
		ii) Cadastral Mapping Methodology: Steps in map preparation., Assigning unique parcel IDs iii) Simple fieldwork: Identifying and marking control points, adjacent boundaries, and features	PG		8
	Module 4: Basic Surveying Methods (20 Hours)	i) Units of Measurement: Basic units of length and area, and their conversions.	PG	Nov-Dec	8
		ii) Chain Surveying: Concept, types of chains, chaining lines, tie lines, offsets, and survey methods. iii) Plane Table Surveying: Principles, accessories, procedures, common errors, and precautions.			

Note: ST= Dr. Syfujjaman Tarafder, SP= Dr. Satyajit Paul, PD= Dr. Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.

Semester-V (Major)

Course	Unit	Topic	Teacher	Period	Exp no of Class
Major Core (GEO-DC-MJ-501A)					
GEO-DC-MJ-501A: SOCIAL AND CULTURAL GEOGRAPHY (Theory) (03)	Module: -1: Introduction to social Geography and its elements	i. Social Geography: Concept, scope, content, approaches and evolution.	DM	July-Aug	2
		ii. Social Elements: Class, caste, race, and ethnicity with special reference to India.			2
		iii. Concept and types of Society, social space, social groups and social processes.			2
	Module: -2: Social wellbeing and issues in Social Geography	i. Social Well-being: Concept and Components.	ST	July-Aug	2
		ii. Concept of Social inclusion and exclusion.			2
		iii. Social segregation in India (Urban and Rural) and Social Problems in India: dowry, child marriage, Domestic violence and crime.			4
	Module: -3: Introduction to Cultural Geography and its elements	i. Cultural Geography: Meaning, scope, content and contemporary trends.	PD	July-Aug	2
		ii. Culture: Concept and type (material and non-material)			2
Module: -4: Issues in Cultural Geography	iii. Concept of cultural diffusion, cultural landscape, Cultural space, cultural region (India, after Sopher), Cultural Hearth and Realm, cultural diversity (India).			4	
	i. Language and major linguistic groups in India; Language extinction.	SG	Aug-Sep	2	
	ii. Religion: Major religious groups in World and India.	ST (iii)		2	
	iii. Cultural ecology, folk culture and rituals with special reference to West Bengal.	SG		3	
GEO-DC-MJ-501B: SOCIAL AND CULTURAL GEOGRAPHY(Practical) (01)	Module-1: Social Indices	iv. Concept of Globalization and cultural change			2
		i. Human Poverty Index (HPI)	SP	Aug-Sep	2
		ii. Gender Parity Index (GPI)			2
		iii. Social Affinity Index (SAI)	ST		2
	iv. Social Segregation Indices: Dissimilarity Index (DI) & Isolation Index (II).				2
Module-2: Spatial representation of Sociocultural aspects	i. Preparation of cartogram (Bar diagram and Proportional Divided Circle) and thematic Map (Choropleth) of India using socio-cultural data (caste, religion and language).	DM SG	Aug-Sep	6	
Module-3: Framing of	i. Preparation of a questionnaire and Schedule regarding socio-economic status and access to	PD	Aug-Sep	4	

	questionnaire & Schedule	basic amenities and services in rural or urban areas			
Major Core (GEO-DC-MJ-502A)					
GEO-DC-MJ-502A: FUNDAMENTALS OF SURVEYING AND MAPPING (THEORY) (Theory) (03)	Module-1: Principles and techniques of surveying	i) Surveying: definition, classification, and applications; Principles: plane and geodetic surveying, Bearing and triangulation. ii) Techniques of surveying by Plane table, Prismatic compass, theodolite. iii) Concept and importance of topographic survey.	SP (Prismatic compass)	Sep	6
	Module-2: Principles and techniques of Levelling and contouring	i) Levelling: Concept, principles, types, procedure, and applications; techniques of levelling by Dumpy level, Abney level, and Clinometer. ii) Concept of contours and their topographic representation; methods and techniques of contouring.	PG	Sep	6
	Module-3: Fundamentals of Mapping	i) Cartography: Nature, scope and development, elements and applications.	DM	Sep	3
		ii) Map: Concept, components, classification, Importance and uses. iii) Thematic Mapping: Concept, Significance, types and applications in spatial analysis.	ST	Sep	3
	Module-4: Geodetic framework and map projection	i) Coordinate systems: Polar, Grid, rectangular and Geographic Coordinate system ii) Shape of earth: Spheroid, Ellipsoid, Geoid and Datum (Everest and WGS84) 36 iii) Map projection: Concept, Classification, properties and uses; Concept and significance of UTM projection.	SG	Sep	6
GEO-DC-MJ-502A: FUNDAMENTALS OF SURVEYING AND MAPPING (Practical) (01)	Module-1: Bearing conversion and Prismatic Compass	i) Conversion of Bearing (Between Whole Circle Bearing and Quadrantile/Reduced Bearing). ii) Traverse survey using Prismatic Compass (closed traverse) and Plane table (Intersection method).	SP	Sep-Oct	6
	Module-2: Dumpy Level and Theodolite	i) Levelling by Dumpy Level and plotting of profile (Collimation and Rise & Fall method); ii) Determination of Height of objects using Transit Theodolite (Base Accessible and base Inaccessible with same vertical plane) (Using stadia method and One degree method).	PG PD	Sep-Oct Sep-Oct	4 4

	Module-3: Cartographic Techniques and Map Projections	i) Thematic Mapping (state/district/sub-district level Map of India) using choropleth technique ii) Construction of Projections (Mathematical): Polar Zenithal stereographic projection, Polyconic projection and Mercator's Projection.	ST SG	Sep-Oct Sep-Oct	4 4
Major Core (GEO-DC-MJ-503A)					
GEO-DC-MJ-503A: QUANTITATIVE TECHNIQUES IN GEOGRAPHY (Theory) (03)	Module-1: Basics of Quantitative Techniques in Geography	i. Importance and significance of quantitative techniques in geographical studies; concepts of data, parameter, constant, variable, population and sample. ii. Types of geographical data: discrete & continuous, spatial & non-spatial, cross-sectional & time-series; Sources of data: primary and secondary. iii. Scales of measurement: nominal, ordinal, interval, ratio. iv. Data organization: tabulation, frequency distribution, cross-tabulation	SP PG	Oct-Nov Oct-Nov	4 4
	Module-2: Descriptive Statistics: Central Tendency and Dispersion	i. Measures of central tendency and partition value: concept, merits, demerits and uses. ii. Measures of dispersion: concept, merits, demerits and uses.	DM SG	Oct-Nov	4 4
	Module-3: Correlation, Regression and Time Series Analysis	i. Correlation: Product moment (Pearson's) and rank correlation (Spearman). ii. Linear regression: concept, regression equation, interpretation of coefficients and standard error of estimate. iii. Time series analysis: concept, methods and applications.	ST	Oct-Nov	7
	Module-4: Basics of Probability	i. Introduction to Probability: Basic terms: experiment, outcome, event, sample space; Simple event operations: union, intersection, complement. ii. Basic Rules of Probability: Addition, Multiplication, Conditional Probability.	PD	Oct-Nov	7
GEO-DC-MJ-503A: QUANTITATIVE TECHNIQUES IN GEOGRAPHY (Practical) (01)	Module-1: Descriptive Statistics: Central Tendency and Dispersion	i) Measures of central tendency: mean (arithmetic mean), median, mode (Calculation and Graphical Plotting). ii) Measures of dispersion: Quartile deviation, mean deviation, standard deviation and Coefficient of variation	DM SG	Nov Nov	4 4
	Module-2: Correlation,	i) Correlation: Product moment correlation (Pearson's)	ST	Nov	4

	Regression and Time Series Analysis	ii) Linear regression: Linear Regression Equation of Y on X. iii) Time series analysis: Semi-average and moving average method.	PG	Nov	4
	Module-3: Basics of Probability	i) Event Operations: Union, intersection, and complement of events using Venn diagrams. ii) Probability Calculation: Addition Rule for mutually exclusive and nonexclusive events, Multiplication Rule for independent and dependent events, Conditional Probability	PD	Nov	5
Major Core (GEO-DC-MJ-504A)					
GEO-DC-MJ-504A: ECONOMIC AND POLITICAL GEOGRAPHY (Theory) (03)	Module-1: Basics of Economic Geography	i) Economic Geography: Meaning and approaches. ii) Basic concepts: Goods, services, production, exchange and consumption. iii) Resource: Concept, nature, classification, creating factors and conservation.	PD	No-Dec	4
	Module-2: Economic Sectors and Theories of Industrial Location	i) Economic activities: Concept and classification. ii) Primary activities: Agriculture (paddy, jute & tea), forestry (lumbering), fishing (inland and coastal of India) and mining (coal, iron ore in India).	SG DM	Nov-Dec	2 4
		iii) Secondary and Tertiary activities: Manufacturing (cotton textile and iron & steel); transport network connectivity and accessibility, transportation and economic development (Golden quadrilateral, PMGSY, Freight corridor).	SP	Nov-Dec	4
		iv) Theories of industrial location: Least cost theory (Weber) & Profit maximisation theory (Losch).	PD	Nov-Dec	4
	Module-3: Fundamentals of Political Geography	i) Political Geography: Definition, nature and scope. ii) Basic concepts: State, Buffer state, Nation and Nation-State, Frontiers, Boundaries, Enclave and exclave	PG	Nov-Dec	4
	Module-4: Geopolitics and Contemporary Geopolitical Issues	i) Geopolitics and geopolitical theories: Concepts of geopolitics, theory of Heartland and Rimland. ii) Contemporary geopolitical issues: Water (Indus water treaty, Kaveri water dispute); Geostrategic importance and vulnerability of Siliguri Corridor	ST	Nov-Dec	4

GEO-DC-MJ-504A: ECONOMIC AND POLITICAL GEOGRAPHY (Practical) (01)	Module-1: Measures of Agricultural efficiency and concentration	i) Kendall's Ranking Co-efficient. ii) Crop Combination by Weaver. iii) Dominant and Distinctive Analysis.	PG PD SP	Dec	5
	Module-2: Measures of Transport network connectivity and accessibility	i) Alpha, Beta and Gamma index. ii) Shimbil Index and Konig Number.	SG DM	Dec	5
	Module-3: Measuring Democracy, Governance, and Political Behaviour	i) Index of democracy. ii) Index of autocracy. iii) Happiness Index. iv) Measuring voting behaviour	ST PD	Dec	4 4

Note: ST= Dr. Syfujjaman Tarafder, SP= Satyajit Paul, PD= Prabir Das, SG= Sanjay Ghosh, DM= Dipankar Majumder, PG= Paban Ghosh.