DEPARTMENT OF GEOGRAPHY

CHANDIDAS MAHAVIDYALAYA

ESTD. - 1972. A Govt. Aided General Degree College Affiliated to The University of Burdwan. UGC Accredited under section 2(f) & 12(B)[1979]. NAAC Re-Accredited in 2016.

Khujutipara,
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India - 731215

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DISTRIBUTION OF SYLLABUS

Session: 2022 - 2023; B.A. (Hons.) Semester – I CBCS

Name of the Teacher	Syllabus to be taught (tentative)	
	CC1 - Geotectonics and Geomorphology	**CC 2 – Cartographic Techniques and Geological Map Study**
Prof. Indrajit Mandal (IM)	1. Earth's tectonic and structural evolution with reference to geological time scale 3. Concept of Isostasy: Theories of Airy and Pratt 6. Karst landforms: Surface and sub-surface 7. Glacial and fluvio-glacial processes and landforms	**CC-2 (Theory):** 5. Survey of India Topographical Maps: Reference scheme of Old and Open series 6. Delineation of Drainage Basin from Survey of India Topographical Map. Concept of Relief, Slope and Stream Order. **CC-2 (Practical):** 3. Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite), Preparation of Relative Relief Map, Slope map (Wentworth), and Stream Ordering (Strahler) on a Drainage Basin.
Prof. Kaustuv Mukherjee (KM)	**CC-1:** 2. Models of landscape evolution: Views of Davis, Penck, and Hack 3. Slope Development: Concept of Wood 4. Development of river network and landforms on uniclinal and folded structures 8. Aeolian and fluvio-aeolian processes and landforms.	**CC-2 (Theory):** 4. Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement **CC-2 (Practical)** 2. Construction of Projections: Polar Zenithal Stereographic, Simple Conic with two Standard Parallels, Bonne's and Mercator's
Prof. Manabendra Roy (MR)	**CC-1:** 4. Plate Tectonics: Processes at constructive, conservative, destructive boundaries and hotspots: resulting landforms 1. Degradational processes: Weathering, mass wasting and resultant landforms	**CC-2 (Theory):** 1. Maps: Classification and Types. Components of a Map 2. Concept of Scales: Plain, Comparative, Diagonal and Vernier 3. Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid. Map Projections: Classification, Properties and Uses. Concept and Significance of UTM Projection **CC-2 (Practical)** 1. Construction of Scales: Plain, Comparative, Diagonal and Vernier
Prof. Arijit Ghosh (AG)	**CC-1:** 2. Earth's interior with special reference to seismology. 5. Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rocks with special reference to Granite and Basalt	**CC-2 (Theory):** 7. Types of rocks and minerals. Characteristics of Granite, Basalt, Dolerite, Pegmatite, Gneiss, Shale, Sandstone, Slate, Marble, Quartzite, Quartz, Feldspar, Mica, Limestone, Calcite, Bauxite, Magnetite, Hematite, Galena 8. Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip, Throw, Hade, heave **CC-2 (Practical)** 4. Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map.

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DISTRIBUTION OF SYLLABUS

Session: 2022 - 2023; B.A. (Hons.) Semester – II CBCS

Name of the Teacher	Syllabus to be taught (tentative)
Prof. Indrajit Mandal (IM)	**CC-3:** Unit 2: 1. Evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies 2. Human - environment relations with special reference to Arctic and hot desert regions **CC-4 (Theory):** 2. Concept and utility of Isopleths and Choropleth 4. Preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) **CC-4 (Practical):** 1. Diagrammatic representation of data: Star and Age-sex pyramid diagram, pie diagram 2. Representation of data on map by proportional circles, dots and spheres, isolines and Choropleth method.
Prof. Kaustuv Mukherjee (KM)	**CC-3:** Unit 2: 3. Population growth and distribution, population composition; demographic transition model; 4. Population–Resource regions 5. Human, population and environment relations with special reference to development–Environment conflict 6. Social morphology and rural house types in India 7. Types and patterns of rural settlements 8. Functional Classification of urban settlements **CC-4 (Theory):** 1. Concepts of Cartograms and Thematic Maps 3. Concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph 5. Concepts of Bearing: magnetic and true, whole-circle and reduced
Prof. Manabendra Roy (MR)	**CC-3:** 1. Nature, scope and recent trends of Human Geography; 2. Evolution of humans, concept of race and ethnicity; Major Racial Groups of the world; 3. Space, society and cultural regions (language and religion); 4. Concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world **CC-4 (Theory):** 6. Basic concepts of surveying and survey equipments: Abneys Level, Clinometer 8. Interpretation of Land use and land cover maps
Prof. Arijit Ghosh (AG)	**CC-4 (Theory):** 7. Basic concepts of surveying and survey equipments: Prismatic Compass, Dumpy Level,Transit Theodolite **CC-4 (Practical):** 3. Contouring by Dumpy Level and Prismatic Compass 4. Determination of Height of objects using Transit Theodolite (Accessible and Inaccessible bases)

A. Ghosh

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DISTRIBUTION OF SYLLABUS

Session: 2022 - 2023; B.A. (Hons.) Semester – III CBCS

Name of the Teacher	Syllabus to be taught (tentative)
Prof. Indrajit Mandal (IM)	**CC 7 – Geography of India :** Unit 1: 1. Geology and physiographic divisions; 2. Climate, soil and vegetation: Characteristics and classification; 3. Population: Distribution, growth, structure and policy; 4. Distribution of population by race, caste, religion, language, tribes; 5. Agricultural regions, Green revolution and its consequences; 6. Mineral and power resources distribution and utilisation of iron ore, coal, petroleum; 7. Industrial development since independence.; 8. Regionalisation of India: Views of Spate and Bhatt. **Unit 2: Geography of West Bengal:** 1. Physical perspectives: Physiographic divisions, forest and water resources; 2. Population: Growth, distribution and human development; 3. Resources: Mining, agriculture and industries; 4. Regional Development: Darjeeling Hills and Sundarban
Prof. Kaustuv Mukherjee (KM)	**CC 5 (Theory) – Climatology:** Unit 2: 1. Condensation: Processes and forms. Mechanism of precipitation: Bergeron-Findeisen ; theory, collision and coalescence. Forms of precipitation.; 2. Air mass: Typology, origin, characteristics and modification.; 3. Fronts: warm and cold; frontogenesis and frontolysis.; 4. Weather: stability and instability; barotropic and baroclinic conditions.; 5. Circulation in the atmosphere: Planetary winds, jet stream and monsoons; 6. Tropical and mid-latitude cyclones; 7. Evidences and causes of climate change; 8. Climatic classification after Köppen, Thornthwaite (1948). **SEC 1 – Computer Basics and Computer Applications:** 1. Numbering Systems; Binary Arithmetic, 2. Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation. 3. Preparation of Annoted Diagrams and its interpretation: Scatter diagram and Histogram 4. Internet Surfing: Generation and extraction of information. ***A project file consisting of four exercises on the above themes is to be submitted***
Prof. Manabendra Roy (MR)	**CC 5 (Theory) – Climatology :** Unit 1: 1. Nature, composition and layering of the atmosphere, 2. Insolation: controlling factors. Heat budget of the atmosphere.; 3.Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences. 4. Greenhouse effect and importance of ozone layer. **CC 6 (Theory) – Statistical Methods in Geography :** Unit 1: 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.; 2. Collection of data and formation of statistical tables.;3. Sampling: Need, types, and significance and methods of random sampling.; 4. Distribution: frequency, cumulative frequency
Prof. Arijit Ghosh (AG)	**CC 6 (Theory) – Statistical Methods in Geography** Unit 2: 1. Central tendency: Mean, median, mode, partition values; 2. Measures of dispersion range, mean deviation, standard deviation, coefficient of variation; 3. Association and correlation: Rank correlation, product moment correlation; 4. Linear Regression and time series analysis **CC 6 (Practical):** 1. Construction of data matrix with each row representing an aerial unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes.; 2. Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted.; 3. Histograms and frequency curve would be prepared on the dataset.; 4. Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a short interpretation.

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DISTRIBUTION OF SYLLABUS

Session: 2022 - 2023; B.A. (Hons.) Semester – IV CBCS

Name of the Teacher	Syllabus to be taught (tentative)
Prof. Indrajit Mandal (IM)	**CC8 (Theoretical): Unit 1: Regional Planning:** 1. Concept and Classification of Regions; 2. Types of Planning; Principles and Techniques of Regional Planning; 3. Need for Regional Planning; Multilevel Planning in India; 4. Metropolitan Concept: Metropolis, Metropolitan Areas, Metropolitan Region. **CC 9 (Theoretical): Unit – 2: ECO. GEO.** 4. Secondary Activities: Manufacturing (Iron and Steel in India and Japan, Petrochemical in India and USA); 5. Tertiary Activities: Types of Trade and Services; 6. Agricultural Systems: Tea Plantation in India and Mixed Farming in Europe; 7. Highways: Roles in Economic Development of India since 1990s; 8. International Trade Blocs: WTO and OPEC. **CC 10 ENV. GEO. (Practical):** 3. Quality assessment of soil using field kit: pH and NPK; 4. Interpretation of air quality using CPCB / WBPCB data.
Prof. Kaustuv Mukherjee (KM)	**CC8 (Theoretical): Regional Planning and Development:** Unit – 2: 1. Development: Meaning, Growth versus Development; 2. Models for Regional Development: Growth Pole (Perroux) and Core Periphery (Hirschman); 3. Model for Regional Development in India: Growth Foci (R.P.Misra); 4. Concept of Regional Inequality and Disparity. **CC 9 (Theoretical) : Economic Geography:** Unit 2: 1. Concept and Classification of Economic Activities; 2. Location Theories: Von Thünen and Alfred Weber; 3. Primary Activities: Subsistence and Commercial Agriculture; Forestry; Fishing. **CC 10: Environmental Geography: Theory:** 7. Concept and Issues related to Bio-diversity; 8. Environmental Programs and Policies on Forest and Wetland: National and Global. **CC 10 (Practical):** 1. Preparation of questionnaire for perception survey on environmental problems; 2. Environmental Impact Assessment: Leopold Matrix.
Prof. Manabendra Roy (MR)	**CC8 (Theoretical): Regional Planning and Development :** 5. Human Development: Significance, Indicators and Measurement; 6. Status of Regional Imbalances in India; 7. Strategies for Regional Development in India 8.NITI Aayog and its Functions **CC 9 (Theoretical) : Economic Geography: Unit 1:** 1. Meaning and Approaches to Economic Geography; 2. Concepts in Economic Geography: Goods; Services; Production; Consumption; 3. Factors Influencing Location of Economic Activity and Forces of Agglomeration; 4. Determining Factors of Transport Cost.
Prof. Arijit Ghosh (AG)	**CC 10: Environmental Geography: Theory:** 1. Geographers' Approach to Environmental Studies; 2. Changes in Perception of Environment in different stages of Human Civilization; 3. Ecosystem: Concept, Structure and Functions; 4. Environmental Degradation and Pollution: Water and Air; 5. Environmental Issues related to Agriculture; 6. Urban Environmental issues related to Waste Management.

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DISTRIBUTION OF SYLLABUS (2022 – 2023) B.A. (Hons.) Semester – V CBCS

Name of the Teacher	Syllabus to be taught (tentative)
Prof. Indrajit Mandal (IM)	**CC 11 : (Theory) Research Methodology and Field Work: Unit 2:** 1. Fieldwork in Geographical studies – Role and significance. Selection of study area and objectives. Pre-field preparations. Ethics of fieldwork; 2. Field techniques and tools: Questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions.; 3. Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording.; 4. Collection of samples. Preparation of inventory from field data. Post-field tasks. **CC 11 (Practical) : Field Report through Survey.** **DSE-1 OR (Theoretical) Cultural and Settlement Geography: Unit 2:** Unit 2: Settlement Geography 1. Scope and Content of Settlement Geography 2. Definition and Characteristics of Rural Settlement 3. Rural Settlements: Site and Situation 4. Urban Settlements: Census Definition, Urban Outgrowth, Urban Agglomeration 5. Urban Morphology: Classical Models of Burgess, Hoyt, Harris and Ullman 6. Functional Classification of Cities: Harris and Nelson. **DSE-2 (Theoretical): POPULATION GEOGRAPHY: Unit 2:** 1. Population Composition and Characteristics: Age-Sex; Female-Male Ratio 2. Measures of Fertility and Mortality 3. Population Composition of India: Rural and Urban, Occupational Structure as per Census of India 4. Migration: Theories, Causes and Types
Prof. Kaustuv Mukherjee (KM)	**CC 11 : (Theory) Research Methodology and Field Work:** Unit 1: 1. Research in Geography: Meaning, types and significance; 2. Significance of Literature review in research; 3. Defining research problem, objectives and hypothesis. Research materials and methods; 4. Techniques of writing scientific reports: Preparing notes, references, bibliography (APA Style), abstract and keywords. **CC 11 (Practical) : Field Report through Survey. CC 12 : (Theory) Remote Sensing and GIS: Unit 1:** 1. Definition, Concepts and Principles of Remote Sensing (RS): Types of Air Photo, RS satellites, sensors and platforms. 2. EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS. 3. Principles of False Colour Composites (FCC) from IRS LISS-III and Landsat Images (ETM+) data: Image Processing, Pre-processing; Enhancement; Classification. 4. Principles of image interpretation for Forest, Water and Soil. **Unit 2:** GIS and GNSS: 1. Definition and Components of Geographical Information System (GIS) and raster and vector data structures, 2. Principles of preparing attribute tables and overlay analysis, 3. Principles of GNSS positioning - Uses and Waypoint Collection Methods, 4. Applications of Geographical Information System in Flood Management and Urban Sprawl. **CC 12 : (Practical) Remote Sensing and GIS:** *[QGIS version 3.0 or above]:* 1. Georeferencing of Scanned Maps, 2. Preparation of FCC using IRS LISS-III and/or Landsat (ETM+) data, 3. Preparation of LULC Map by Supervised Image Classification (Maximum Likelihood) using IRS LISS-IIIor Landsat (ETM+) data 4. Digitisation of Point. Line and Polygon Features and Preparation of Thematic Map (using bar, pie and choropleth method).
Prof. Manabendra Roy (MR)	**DSE-1 OR (Theoretical) Cultural and Settlement Geography: Unit 1:** 1. Definition, Scope and Content of Cultural Geography, 2. Development of Cultural Geography, 3. Concept of Cultural Hearth, Realm; Cultural Landscape. **DSE-2 (Theoretical): POPULATION GEOGRAPHY: Unit – 2:** 5. Concept of Human Development Index, 6. Population and development: population-resource regions, 7. Population policies in Selected Countries: Sweden and China, 8.Contemporary Issues in Population: Health and Unemployment
Prof. Arijit Ghosh (AG)	**DSE-1 OR (Theoretical) Cultural and Settlement Geography: Unit 1:** 4. Cultural Innovation and Diffusion; Diffusion of Major World Religions 5.Cultural Segregation, Cultural Diversity, and Acculturation 6. Major Races of the World: Distribution and Characteristics **DSE-2 (Theoretical): POPULATION GEOGRAPHY: Unit – 1:** 1. Development of Population Geography; Relation between Population Geography and Demography, 2. Determinants of Population Dynamics; Concept of Optimum Population, 3. Theories of population growth: Malthusian Theory and Marxian Approach, Demographic Transition Model, 4. Distribution, Density and Growth of Population in India since 1951.

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DISTRIBUTION OF SYLLABUS (2022 – 2023) B.A. (Hons.) Semester – VI CBCS

Name of the Teacher	Syllabus to be taught (tentative)
Prof. Indrajit Mandal (IM)	**CC 13 (Theoretical) : EVOLUTION OF GEOGRAPHICAL THOUGHT: Unit: 1:** 1. Definition, Scope and Content of Geography; Geography as a Spatial Science, 2. Geography in Ancient Period: Greek and Roman, 3. Development of Geography in Medieval period: Arabian, 4. Development of Mapping and Knowledge about the World Regional Geography in the Age of Explorations, 5. Classical Geography in 19th Century: Humboldt, Ritter, 6. Quantitative Revolution and its Critique **OR DSE – 3 (Theory) RESOURCE GEO:** Unit: 2: 1. Distribution and Utilisation of Metallic Mineral Resources in Indian Context: Iron ore, Bauxite. 2. Distribution and Utilisation of Non-Metallic Mineral Resourcesin Indian Context: Mica, Limestone. 3. Distribution, Problems and Management of Energy Resourcesin Indian Context: Conventional (Coal) and Non-Conventional (Solar). 4. Power resources and problems with reference to Petroleum. 5. Contemporary Energy Crisis and Future Scenario. 6. Sustainable Resource Development. **DSE - 4 (Theoretical) : SOIL AND BIO GEOGRAPHY:** 4. Concept of Zonal, Azonal and Intrazonal Soil; Formation and Profile Characteristics of Laterite and Podsol, 5. Classification of Soil : Russian and Indian (ICAR), 6. Soil Degradation and Management
Prof. Kaustuv Mukherjee (KM)	**CC 13 (Theoretical) GEOGRAPHICAL THOUGHT:** Unit: 2: 1. German School of Thought, 2. French School of Thought, 3. American School of Thought, 4. Indian Contribution to Geography, 5. Concept of Determinism, Possibilism and Neo-Determinism, 6. Approaches to the study of Geography: Systematic and Regional **CC 14: DISASTER MANAGEMENT: Unit 2:** 1. Earthquake: Factors, vulnerability, consequences and management, 2. Landslide: Factors, vulnerability, consequences and management, 3. Cyclone: Factors, vulnerability, consequences and management, 4. Fire: Factors, vulnerability, consequences and management **DSE - 4 (Theoretical) : SOIL AND BIO GEOGRAPHY: Unit: 1:** 1. Soil: Definition, Factors of Formation 2. Development and Characteristics of an ideal Soil Profile, 3. Physical and Chemical Properties of Soil with special reference to Texture, Structure, Organic Carbon and pH, **Unit-2:** Bio-Geography 1. Definition and Scope of Bio-geography, Meaning of Biosphere,Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes 2. Biosphere and Energy: Laws of Energy Exchange, Food Chain, Food Weband Energy Flow
Prof. Manabendra Roy (MR)	**OR DSE – 3 (Theory) RESOURCE GEO: Unit: 1:** 1. Resource Geography: Its Importance and relation with other sub-disciplines, 2. Resource: Concept and Classification, 3. Functional Theory of Resource, 4. Problems of Resource Depletion with Special Reference to Forest, Water and Fossil Fuels. **DSE - 4 (Theoretical) : SOIL AND BIO GEOGRAPHY:** Unit-2: 3. Bio-Geo Chemical Cycle: Carbon, Nitrogen 4. Factors of Plant Growth: Light, Heat, Moisture, Wind, Soil and Topography 5. Biomes – Concept and Classification; Tropical Rainforest and Temperate Grassland 6. Threat to Biodiversity- Causes, Consequences and Conservation
Prof. Arijit Ghosh (AG)	**CC 14 : DISASTER MANAGEMENT:** Unit 1: 1. Classification of hazards and disasters, 2. Approaches to hazard study: Risk perception and vulnerability assessment Hazard paradigms, 3. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building, 4. Hazards mapping: Data and techniques. **CC 14 (Practical) : DISASTER MANAGEMENT Project Work** on any one of these: 1. Earthquake 2. Landslide, 3. Cyclone 4. Flood 5. Drought 6. River Bank Erosion 7. Mining Area Subsidence 8. Tsunami. **OR DSE – 3 (Theory) RESOURCE GEO: Unit: 1:** 5. Resource Conservation: Principles and Methods, 6. Concept of 'Limits to Growth'.

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