DHRUBA CHAND HALDER COLLEGE
DAKSHIN BARASAT

BROCHURE

2020-21

DEPARTMENT OF GEOGRAPHY

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2020 – 2021

DEPARTMENT OF GEOGRAPHY

Faculty Profile: Adequacy and competency of Faculty

The Department of Geography, Dhruba Chand Halder College was established in 1998 at undergraduate level. The department offers two programmes of study as per the syllabus of Calcutta University, viz. B.A/B. Sc Honours in Geography; B.A/ B.Sc General Course with Geography.

The teachers are competent enough to accommodate inclusion of new topics at the time of revision of syllabus. The faculty members are also associated with teaching assignment at the post graduate level too.

Apart from that, they are actively involved in organizing seminar, debate, group discussion, excursion, collaboration programme and extension programmes for the college as well as for the department too.

Faculty Profile

Name	Academic qualification	Specialization
Dr. Bratati Day	Ph. D	Gender and Cultural Studies
Prof. Manashi Bhuniya Mal	M.A	Environmental Geography
Prof. Pijush Kanti Mondal	M.A	Agriculture
Prof Priyanka Chaterjee	M.A, B.Ed, M.Ed	Geomorphology
Prof Kamal Hossain Akhand	M.A, B.Ed, NET,SLET	Geomorphology of Humid
Prof. Parul Das	M.Sc, NET	Geography of Tourism
Prof.Pujarini Ghosh	M.Sc NET	GIS&Remote sensing

Laboratory attendant - Sri Parimal Sardar

LEARNING RESOURCES OF THE DEPARTMENT

The central Library of the college is the main resource of learning for the students. The honours and the general students get adequate books from the library.

The faculty also has a small departmental library of its own. Few text books, reference books and journals are kept in the departmental library for the students use.

LABORATORY RESOURCES

- Soil and water testing kit
- Weather instruments [Hygrometer, Barometer, Six's Maximum and Minimum Thermometer , Rain Gauge (Manual)]
- Digital cartographic lab, equipped by GIS and Remote sensing software
- GPS tracking instrument for map making
- Survey Instruments [Theodolite, Dumpy Level, Prismatic Compass,Lessor distance, and accessories]
- Camera for documentation
- Rocks and minerals

MODERN TEACHING METHODS PRACTICED

Today, medium of instruction and information is changing rapidly. The faculty uses various methods in the class-room teaching. Besides traditional chalk and talk method, the faculty uses power point presentation. It helps the students to understand the subject in a comprehensive way. Interdisciplinary discussion, debate and seminar also help the students to update their knowledge. Community based awareness prgramme helps them to groom themselves for the subject specific field survey.

CAREER OPPORTUNITIES

GEOGRAPHY (HONS)

ACADEMIC	• School service commision • College service commision
ADMINISTRATIVE OTHER	• WBCS • CIVIL SERVICE • FOREIGN SERVICE • SOCIAL SERVICE • NON GOVERNMENT ORGANISATION (NGO)
SPECIALIZATION GEOGRAPHY TO OTHER SUBJECT	• GIS AND REMOTE SENSING • ENVIRONMENTAL SCIENCE • POPULATION STUDIES • WOMEN STUDEIS AND GENDER STUDIES • CULTURAL STUDIES • ARCHEOLOGY • MUSEOLOGY • MASTERS IN SOCIAL WORK

DEPARTMENTAL ACTIVITIES

LECTURE
- SPECIAL LECTURE
- FACULTY EXCAHNGE PROGRAMME

APPLICATION
- STUDENT SEMINAR
- WALL MAGAZINE/ DEPARTMENTAL MAGAZINE/ WORKSHOP
- DEBATE AND QUIZ
- EXHIBITION
- FILM SCREENING

COMMUNICATION
- CULTURAL ACTIVITIES
- AWARNESS PROGRAMME FOR COMMUNITY DEVELOPMENT
- EXCURSION
- FIELD VISIT
- BIO-DIVERSITY REGISTER

SYLLABUS DISTRIBUTION

Semester – I

2.HONOURS COURSE : CORE SUBJECTS

2.1 GEO-A-CC-1-01-TH – Geotectonics and Geomorphology–60 Marks/4 Credits

Unit I: Geotectonics

1. Earth's tectonic and structural evolution with reference to geological time scale [3] **[P.D.]**

2. Earth's interior with special reference to seismology. Isostasy: Models of Airy, Pratt and their applicability [3] **[B.D]**

3. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots [10] **[P.C.]**

4. Folds and Faults—origin and types. [4] **[K.H.A.]**

Unit II: Geomorphology

5. Degradational processes: Weathering, mass wasting and resultant landforms [5] [K.H.A]

6. Processes of entrainment, transportation and deposition by different geomorphic agents. Role of humans in landform development [4] [P.G.]

7. Development of river network and landforms on uniclinal and folded structures. Surface expression of faults. [6] [M.B]

8. Development of river network and landforms on granites, basalts and limestones ; SuperimposedandAnticidentriversystem.[7] [P.G.]

9. Coastal processes and landforms[7][P.K.M]

10. Glacial and glacio-fluvial processes and landforms [4][P.K.M.]

11. Aeolian and fluvio-aeolian processes and landforms [4] [P.C.]

12. Role of time and systems approach in geomorphology. Models on landscape evolution: Views of Davis, Penck, King and Hack [8] [B.D. &P.D.]

2.2GEO-A-CC-1-01-P – Geotectonics and Geomorphology Lab–30 Marks / 2 Credits

1. Measurement of dip and strike using clinometer [6] B.D, P.C and P.D

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] P.K.M, P.D and M.B

3. Extraction and interpretation of geomorphic information from Survey of India 1:50k topographical maps of plateau region: Delineation of drainage basins, construction of relief profiles (superimposed, projected and composite), relative relief map, slope map (Wentworth's method), stream ordering (Strahler) and bifurcation ratio on a drainage basin [30] B.D, P.C, K.H.A and P.G

4. Construction of hypsometric curve and derivation of hypsometric integer from Survey of India 1:50k topographical maps of plateau region [10] K.H.A, P.K.M and P.G

5. Viva-voce based on laboratory notebook (5 Marks)

2.3   GEO-A-CC-1-02-TH – Cartographic Techniques–60 Marks / 4 Credits

1. Maps: Components and classification [4] [P.C. & M.B]

2. Concept and application of scales: Plain, comparative, diagonal and Vernier [8] [P.K.M &M.B.]

3. Coordinate systems: Polar and rectangular [6] [P.G.]

4. Concept of generating globe [2] [K.H.A.]

5. Grids: Angular and linear systems of measurement [5][B.D]

6. Bearing: Magnetic and true, whole-circle and reduced [5][P.D.]

7. Concept of geoid and spheroid with special reference to Everest and WGS-84 ; Significance of Geoid & Spheroid. [4][P.G..]

8. Map projections: Classification, properties and uses [8] [P.K.M.]

9. Concept and significance of UTM projection [2] [P.D]

10. Representation of data using dots , proportional circle and sphere. [5] [K.H.A]

11. Representation of data using isopleth,choropleth and chorochrometic map. [5] [P.C.]

12. Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps [6] [B.D.]

2.4 GEO-A-CC-1-02-P – Cartographic Techniques Lab–30 Marks / 2 Credits

1. Graphical construction of scales: Plain, comparative, diagonal and Vernier [16] M.B ,PK.M, P.D,

2. Construction of projections: Polar Zenithal Stereographic, Simple Conic with one standard parallel, Bonne's, Cylindrical Equal Area, and Mercator's [20] B.D, P.G, K.H.A

3. Thematic maps: Proportional squares, pie diagrams with proportional circles, dots and spheres [12] K.H.A

4. Thematic maps: Choropleth, isopleth, and chorochromatic maps [12] P.G, P.G, B.D

5. Viva-voce based on laboratory notebook (5 Marks)

Semester – 2

GEO-A-CC-2-03-TH – Human Geography -60 Marks / 4 Credits

Unit I: Nature and Principles

1. Nature, scope and recent trends. Elements of human geography [4] **PKM**

2. Approaches to Human Geography: Resource, locational, landscape, environment [6] K.H A
3. Concept and classification of race. Ethnicity [5] PC
4. Space, society and cultural regions (language and religion) [5] PG

Unit II: Society, Demography and Ekistics

5. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society [6] BD
6. Human adaptation to environment: Case studies of Eskimo, Masai and Maori [4] PD+MD
7. Population growth and distribution, composition; demographic transition [5] PG+MD
8. Population–resource regions (Ackerman) [5] PKM
9. Development–environment conflict [5] KHA
10. Types and patterns of rural settlements [5] PC
11. Rural house types in India [5] PD
12. Morphology and hierarchy of urban settlements [5] BD

2.6 GEO-A-CC-2-03-P – Human Geography Lab–30 Marks / 2 Credits

1. Spatial variation in continent- or country-level religious composition by divided proportional circles [12]PC+MD
2. Measuring arithmetic growth rate of population comparing two decadal datasets [15] PG+PD
3. Types of Age-Sex pyramids (progressive, regressive, intermediate and stationary): Graphical representation and analysis [20]BD+PKM
4. Nearest neighbour analysis from Survey of India 1:50k topographical maps (5' x 5') [13]BF+KHA
5. Viva-voce based on laboratory notebook (5 Marks)

2.7 GEO-A-CC-2-04-TH – Thematic Mapping and Surveying –60 Marks / 4 Credits

1. Concepts of rounding, scientific notation. Logarithm and anti-logarithm. Natural and log scales [4] KHA
2. Concept of diagrammatic representation of data [2] BD
3. Preparation and interpretation of geological maps [5]PKM
4. Preparation and interpretation of weather maps [5] PC
5. Preparation and interpretation land use land cover maps [5] PD
6. Preparation and interpretation of socio-economic maps [5] PG
7. Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, NRSC / Bhuvan, etc. [5] PKM+MD
8. Basic concepts of surveying and survey equipment: Prismatic compass [5] PG
9. Basic concepts of surveying and survey equipment: Dumpy level [7] PD
10. Basic concepts of surveying and survey equipment: Theodolite [7] PC
11. Basic concepts of surveying and survey equipment: Abney level [5] KHA
12. Basic concepts of surveying and survey equipment: Laser distance measurer [5] PD

2.8 GEO-A-CC-2-04-P – Thematic Mapping and Surveying Lab –30 Marks / 2 Credits

1. Traverse survey using prismatic compass [10] PKM+PG
2. Profile survey using dumpy Level [12] PD+BD
3. Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite [18] PC+KHA
4. Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions [20] ALL
Viva-voce based on laboratory notebook (5 Marks)

2.9 GEO-A-CC-3-05-TH – Climatology – 60 Marks / 4 Credits

Unit I: Elements of the Atmosphere

1. Nature, composition and layering of the atmosphere [4] [P.C.]

2. Insolation: Controlling factors. Heat budget of the atmosphere [6] [P.D.]

3. Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences [6] [P.K.M]
4. Overview of climate change: Greenhouse effect. Formation, depletion, and significance of the ozone layer [4] [P.G.]

Unit II: Atmospheric Phenomena and Climatic Classification

5. Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation [6] [PKM & PD]
6. Air mass: Typology, origin, characteristics and modification [4] [P.C]
7. Fronts: Warm and cold, frontogenesis, and frontolysis [5] [P.G.]
8. Weather: Stability and instability, barotropic and baroclinic conditions [5] [K.H.A]
9. Circulation in the atmosphere: Planetary winds, jet streams, index cycle [5] [K.H.A]
10. Atmospheric disturbances: Tropical and mid-latitude cyclones, thunderstorms [5] [M.B]
11. Monsoon circulation and mechanism with reference to India [5] [B.D]
12. Climatic classification after Thornthwaite (1955) and Oliver [5] [B.D]

Semester3

2.10 GEO-A-CC-3-05-P – Climatology Lab –30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.
1. Measurement of weather elements using analogue instruments: Mean daily temperature, air pressure, relative humidity, and rainfall [15] [BD, PC & KHA]
2. Interpretation of a daily weather map of India (any two): Pre-Monsoon, Monsoon, and Post-Monsoon [20] [PKM & MB]
3. Construction and interpretation of hythergraph and climograph (G. Taylor) [15] [PG]
4. Construction and interpretation of wind rose [10] [PD]
5. Viva-voce based on laboratory notebook (5 Marks)

2.11 GEO-A-CC-3-06-TH – Hydrology and Oceanography – 60 Marks / 4 Credits

Unit-I: Hydrology

1. Systems approach in hydrology. Global hydrological cycle: Its physical and biological role [5] [PC]
2. Run off: controlling factors. Infiltration and evapotranspiration. Run off cycle [5] [PC]
3. Drainage basin as a hydrological unit. Principles of water harvesting and watershed management [5] [PG]
4. Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement [5] [PG]

Unit-II: Oceanography

5. Major relief features of the ocean floor: Characteristics and origin according to plate tectonics [6] [PKM]
6. Physical and chemical properties of ocean water [4] [PKM]
7. Water mass, T–S diagram [4] [KHA]
8. Air-Sea interactions, ocean circulation, wave and tide [8] [KHA]

9. Ocean temperature and salinity: Distribution and determinants [4] [BD]
10. Coral reefs: Formation, classification and threats [5] [PD]
11. Marine resources: Classification and sustainable utilisation [4][PD]
12. Sea level change: Types and causes [5][BD]

2.12 GEO-A-CC-3-06-P – Hydrology and Oceanography Lab –30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following is to be prepared and submitted.
The exercises are to be drawn in pencil with photocopied representation of source materials where
necessary. All texts are to be handwritten.
1. Construction and interpretation of rating curves [10] [PKM & PC]
2. Construction and interpretation of hydrographs and unit hydrographs [15] [PKM & PC]
3. Construction and interpretation of monthly rainfall dispersion diagram (Quartile
method), Climatic water budget and Ergograph [25] [BD & PD]
4. Construction of Theissen polygon from precipitation data [10] [KHA]
5. Viva-voce based on laboratory notebook (5 Marks)

2.13 GEO-A-CC-3-07-TH – Statistical Methods in Geography –60 Marks / 4 Credits

Unit I: Frequency Distribution and Sampling
1. Importance and significance of statistics in Geography [4] [PG]
2. Discrete and continuous data, population and samples, scales of measurement
(nominal, ordinal, interval and ratio) [5] [PC]
3. Sources of geographical data for statistical analysis [4] [BD]
4. Collection of data and preparation of statistical tables [5] [PKM]
5. Sampling: Need, types, significance, and methods of random sampling [4] [PG]
6. Theoretical distribution: Frequency, cumulative frequency, normal, and probability [6] [PD]
Unit II: Numerical Data Analysis
7. Central tendency: Mean, median, mode, and partition values [6] [MB]
8. Measures of dispersion range, mean deviation, standard deviation, and coefficient of
variation [6] [PD]
9. Association and correlation: Product moment correlation and rank correlation, [5] [KHA]
10. Regression: Linear and non-linear [5][BD]
11. Time series analysis: Moving average [5][PKM]
12. Hypothesis testing: Chi-square test and T-test [5][PC]

2.14 GEO-A-CC-3-07-P – Statistical Methods in Geography Lab – 30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following is to be prepared and submitted.
The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts
are to be handwritten.
1. Construction of data matrix with each row representing an areal unit (districts / blocks /
mouzas / towns) and corresponding columns of relevant attributes [15] [BD & PC]
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][MB]
3. From the data matrix, a sample set (20%) would be drawn using random, systematic,
and stratified methods of sampling and the samples would be located on a map with an
explanation of the methods used [15] [PKM & PD]
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] [KHA & PG]
5. Viva-voce based on laboratory notebook (5 Marks)

4.2 GEO-A-SEC-A-3-02-TH – Tourism Management -90 Marks / 2 Credits

1. Scope and Nature: Concepts and issues, tourism, recreation and leisure inter-relations;

Factors influencing tourism, Types of Tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national [10] [PD]
2. Use of information on factors (historical, natural, socio-cultural and economic; motivating factors for pilgrimages) to plan destination marketing; tourism products. Niche tourism planning [5] [BD]
3. Tourism impact assessment, Sustainable tourism, Information Technology and Tourism, Tour operations planning and guiding [8] [PKM & PG]
4. Increasing Global tourism; Tourism in India: Tourism infrastructure, access, planning for different budgets for case study sites of Western Himalayas, Goa, Chilka/Vembanad, Jaipur [7][MB, PC & KHA]

Semester 5

2.21 GEO-A-CC-5-11-TH – Research Methodology and Fieldwork –60 Marks / 4 Credits

Unit I: Research Methodology

1. Research in Geography: Meaning, types and significance [5][P.C]2. Literature review and formulation of research design [5][B.D]

3. Defining research problem, objectives and hypothesis [6][P.C & M.B]

4. Research materials and methods [4][P.G]

5. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract, and keywords [6][B.D]

6. Plagiarism: Classification and prevention [4][K.H.A]

Unit II: Fieldwork

7. Fieldwork in Geographical studies: Role and significance. Selection of study area and

objectives. Pre-field academic preparations. Ethics of fieldwork [6] [P.K.M]

8. Field techniques and tools: Observation (participant, non-participant), questionnaires (open, closed, structured, non-structured). Interview [5] [P.D]

9. Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording [5] [K.H.A]

10. Positioning and collection of samples. Preparation of inventory from field data [4] [P.D]

11. Post-field tabulation, processing and analysis of quantitative and qualitative data [5] [PKM & M.B]

12. Fieldwork: Logistics and handling of emergencies [5] [P.G]

2.22 GEO-A-CC-5-11-P – Research Methodology and Fieldwork Lab –30 Marks / 2 Credits

Every student needs to participate in fieldwork and prepare a field report according to the following guideline, failing which he/she will not be evaluated for **GEO-A-CC-5-11-P.**

1. Each student will prepare a report based on primary data collected from field survey and secondary data collected from different sources.

2. Students will select either one rural area (mouza) or an urban area (municipal ward) for the study, with the primary objective of evaluating the relation between physical and cultural landscape.

3. A specific problem or a special feature should be identified based on which, the study area will be selected.

4. The report should be handwritten in English on A4 size paper in candidate's own words within 5,000 words (Introductory Chapter: 1000 words; Physical Aspects: 1500 words; Aspects: 1500 words; Concluding Chapter: 500 words, approximately) excluding tables, photographs, maps, diagrams, references and appendices.

5. Photographs, maps and diagrams should not exceed 15 pages.

6. A copy of the bound report, duly signed by the concerned teacher, will be submitted during examination.

7. The field work and post-field work will include:

a. Collection of primary data on physical aspects (relief and soil) of the study area.

Students should use survey instruments like prismatic compass, dumpy level, Abney level or clinometer wherever necessary.

b. Collection of soil samples from different land cover land use regions of the study area for determining pH and NPK values with help of a soil kit.

c. Collection of socio economic data, at the household level (with the help of a questionnaire) in the selected study area.

d. Plot to plot land use survey for preparation of a land use map, covering whole or part of the selected area.

e. Visit to different organisations and departments for collection of secondary data.

f. Any other survey relevant to the objective of the study.

8. The Field Report should contain the following sections (a–e).

a. Introduction: Study area extent and space relations, reasons for selection of the study area on the basis of a specific problem or special feature, objectives, methods of data collection, analyses and presentation, sources of information, etc.

b. Physical aspects: Lithology and geological structure, relief, slope, drainage, climate, soil, vegetation, environmental issues, proneness to natural hazards, etc.[B.D, K.H.A & P.G]

c. Socio-economic aspects: [P.K.M , P.C. & P.D]

i. Population attributes: Number, sex ratio, literacy, occupational structure, ethnic and religious composition, language, per capita income, etc.ii. Settlement characteristics: Number of houses, building materials, number and size of rooms, amenities, etc.iii. Agriculture: General land use, crop-combination, use of fertiliser and irrigational facilities, production and marketing etc.

iv. Other economic activities: Fishing, horticulture, brick-making, household and other industries, etc.

d. Conclusions: Relation between physical and cultural landscape. Evaluation of problems and prospects. General recommendations.

e. Bibliography.

9. The students will prepare (i) a chorochromatic land use land cover map on the basis of plot to plot survey; (ii) a profile of suitable length, surveyed and plotted, with different land use land cover superimposed on it.

10. All sections of the report should contain relevant maps, diagrams and photographs using primary and secondary data, clearly citing sources.

11. All surveys should pertain to the objective of the study. Surveys not relevant for establishing the relation between physical and cultural landscape should be avoided.

12. Marks division: 20 on report + 10 on viva-voce = 30

2.23 GEO-A-CC-5-12-TH – Remote Sensing, GIS and GNSS–30 Marks / 2 Credits

Unit I: Remote Sensing

1. Principles of Remote Sensing (RS): Types of RS satellites and sensors [5] [P.C]

2. Sensor resolutions and their applications with reference to IRS and Landsat missions [5] [K.H.A]

3. Image referencing schemes and acquisition procedure of free geospatial data fromNRSC / Bhuvan and USGS [5][K.H.A]

4. Preparation of False Colour Composites from IRS LISS-3 and Landsat TM / OLI data. [5] [P.K.M]

5. Principles of image interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images [5] [P.D]

6. Acquisition and utilisation of free Digital Elevation Model data: CartoDEM, SRTM and ALOS [5] [P.G]

Unit II: Geographical Information Systems and Global Navigation Satellite System

7. GIS data structures types: Spatial and non-spatial, raster and vector [5] [P.C]

8. Principles of preparing attribute tables, data manipulation, and overlay analysis [6] [P.G]

9. Principles and significance of buffer preparation [4] [P.D]

10. Principles and significance of overlay analysis [5] [P.K.M]

Unit III: Global Navigation Satellite System (GNSS)

11. Principles of GNSS positioning and waypoint collection [5] [B.D]

12. Principles of transferring of GNSS waypoints to GIS. Area and length calculations from GNSS data [5] [B.D]

2.24 GEO-A-CC-5-12-P – Remote Sensing, GIS and GNSS Lab –30 Marks /2 Credits

laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be represented as computer prints from Q-GIS / Garmin Basecamp / MS Excel

software as applicable. Methods and interpretations are to be handwritten.

1. Image georeferencing and enhancement. Preparation of reflectance libraries of LULC features across different image bands of IRS L3 or Landsat OLI data [15][K.H.A]

2. Supervised image classification, class editing, and post-classification analysis [15][P.G]

3. Digitisation of features and administrative boundaries. Data attachment, overlay, and preparation of annotated thematic maps [20] [P.K.M, P.C. & P.D]

4. Waypoint collection from GNSS receivers and exporting to GIS database [10] [B.D]5. Viva-voce based on laboratory notebook (5 Marks)

3.HONOURS|COURSE:DISCIPLINESPECIFICELECTIVES

3.1 GEO-A-DSE-A-5-01-TH – Fluvial Geomorphology- 60 Marks / 4 Credits

1. Scope and components of Fluvial Geomorphology. Rivers as hydro-systems. Geographers' approach to study of rivers [3] [K.H.A. & M.B]

2. Processes and significance of sediment entrainment. The Hjulström curve [5][P.C]

3. Models of channel initiation and network development [5] [P.K.M]

4. Linear, areal and altitudinal properties of drainage basin. Horton's stream laws. [5] [K.H.A]

5. Fundamentals of Rosgen stream classification system [5][B.D]

6. Fluvial morphodynamics: Adjustment of channel forms to tectonic, climatic, sea level and land use changes [6][PG]

7. Large rivers of the tropics: Characteristics and significance [5] [P.G]

8. Fluvial landforms: Terraces, alluvial fans, badlands and accretion topography [5]

 [M.V & P.D]

9. Riverbank erosion and river degeneration: Processes, management, and impact on land use [5][P.D]

10. Human intervention on fluvial systems : Types and consequences [8] [P.K.M]

11. Concept and significance of ecological flow [3] [P.C]

12. Integrated watershed management: Principles and significance [5][B.D]

3.2 GEO-A-DSE-A-5-01-P – Fluvial Geomorphology Lab -30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.

1. Identification of drainage patterns and construction of channel profiles from Survey of India 1:50k topographical maps. Computation of sinuosity indices from river planforms[20] [M.B]

2. Riverbank erosion: Quantification of eroded area and vulnerability zonation using multi-dated maps and images [20] [B.D]

3. Flood frequency analysis from hydrographs [5] [P.G]

4. Analyses of pebbles: Sphericity and roundness indices [15] [KHA]

5. Viva-voce based on laboratory notebook (5 Marks)

3.9 GEO-A-DSE-B-5-05-TH – Cultural and Settlement Geography -60 Marks / 4 Credits

Unit I: Cultural Geography

1. Definition, scope and content of cultural geography [5][P.K.M]

2. Development of cultural geography in relation to allied disciplines [5][P.G]

3. Cultural hearth and realm, cultural diffusion, diffusion of major world religions and languages [6][P.G]

4. Cultural segregation and cultural diversity, culture, technology and development. [5][B.D]

5. Races and racial groups of the world [5][B.D]

6. Cultural regions of India [4][P.K.M]

Unit II: Settlement Geography

7. Rural settlement: Definition, nature and characteristics [3][P.C.]

8. Rural settlement: Site, situation, and morphology [5][P.C.]

9. Rural house types with reference to India, social segregation in rural areas. Census of India categories of rural settlements [7][K.H.A]

10. Urban settlement: Census of India definition and categories [3][K.H.A]

11. Urban morphology: Models of Burgess, Hoyt, Harris, and Ullman. [7][P.D]

12. City-region and conurbation. Functional classification of cities: Schemes of Harris, Nelson, and McKenzie [5] [M.B & P.D]

3.10 GEO-A-DSE-B-5-05-P – Cultural and Settlement Geography Lab -30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.

1. Mapping language distribution of India [10][P.K.M]

2. CD block-wise housing distribution in any district of West Bengal using proportional square [20][P.C]

3. Identification of rural settlement types from Survey of India 1:50k topographical maps[15][P.D]

4. Social area analysis of a city (Shevky & Bell) [15][B.D]

5. Viva-voce based on laboratory notebook (5 Marks)

Syllabus for GE and HE and syllabus distribution

General course Core subject

Semester I

5.1 GEO-G-CC-1-01-TH – Physical Geography □60 Marks□/ 4 Credits

Unit I: Geotectonics
1. Earth's interior with special reference to seismology [3] B.D

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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] P.C
3. Folds and faults: Classification and surface expression [6] K.H. A

Unit II: Geomorphology
4. Degradational processes: Weathering, mass wasting and resultant landforms [4] P.K.M
5. Principal geomorphic agents. Classification and evolution of fluvial, coastal, aeolian and glacial landforms [12] P.G and M.B
6. Ideas of Davis, Penck and King on slope evolution. Systems approach and its significance in geomorphology [7] B.D and P.D

Unit III: Hydrology
7. Global hydrological cycle: Its physical and biological role [2] P.C
8. Run off: controlling factors. Concept of ecological flow [4] P.K.M
9. Drainage basin as a hydrological unit. Principles of watershed management [3] P.G

Unit IV: Oceanography
10. Physical and chemical properties of ocean water. Distribution and determinants of temperature and salinity [5] K.H.A
11. Overview of air-sea interactions. Ocean circulation, wave and tide [7] B.D
12. Marine resources: Classification and sustainable utilisation [3] M.B

5.2 GEO-G-CC-1-01-P – Physical Geography Lab-30 Marks / 2 Credits
1. Megascopic identification of *mineral samples*: Bauxite, calcite, chalcopyrite, feldspar, galena, hematite, mica, quartz, talc, tourmaline [8] P.K.M, P.D
2. Megascopic identification of *rock samples*: Granite, basalt, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite [12] P.K.M, P.D
3. Extraction of physiographic information from Survey of India 1:50k topographical maps of plateau region: Delineation of drainage basins, construction and interpretation of relief profiles (superimposed, projected and composite), Construction and interpretation of relative relief map [20] B.D, P.C, K.H.A,
4. Extraction of drainage information from Survey of India topographical maps: Construction and interpretation of drainage density maps, extraction and interpretation of channel features and drainage patterns [20] B.D, P.G
5. Viva-voce based on laboratory notebook (5 Marks)

Syllabus for GE and HE and syllabus distribution

Semester 2

5.3 GEO-G-CC-2-02-TH – Environmental Geography -60 Marks / 4 Credits

Unit I: Climatology

1. Insolation and Heat Budget. Horizontal and vertical distribution of atmospheric temperature and pressure [5] PC
2. Overview of planetary wind systems. Indian Monsoons: Mechanisms and controls [6] PC
3. Atmospheric disturbances: Tropical and temperate cyclones. Thunderstorms [7] BD

4. Overview of global climatic change: Greenhouse effect. Ozone depletion [5] BD
5. Scheme of world climatic classification by Köppen [2] MB

Unit II: Soil Geography

6. Factors of soil formation [4] PD
7. Soil profile development under different climatic conditions: Laterite, Podsol and Chernozem [6] PD
8. Physical and chemical properties of soils: Texture, structure, pH, salinity and NPK status [6] KHA
9. USDA classification of soils. Soil erosion and its management [4]MB

Unit III: Biogeography

10. Ecosystem and Biomes. Distribution and characteristics of tropical rainforest; Savannah and hot desert biomes [6] PKM
11. Plant types, occurrence and ecological adaptations: Halophytes, xerophytes, hydrophytes and mesophytes [5] PKM& PG
12. Biodiversity: Types, threats and management with special reference to India [4] PG

5.4 GEO-G-CC-2-02-P – Environmental Geography Lab-30 Marks / 2 Credits

1. Interpretation of a daily weather map of India (any one): Pre-Monsoon, Monsoon or Post-Monsoon [20] PG& PC
2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) [20] PD+PKM
3. Determination of soil type by ternary diagram textural plotting [10] KHA
4. Preparation of peoples' biodiversity register [10] BD
5. Viva-voce based on laboratory notebook (5 Marks)

Syllabus for GE and HE and syllabus distribution

Semester 3

5.5 GEO-G-CC-3-03-TH – Human Geography-60 Marks / 4 Credits

Unit I: Economic Geography

1. Sectors of the economy: Primary, Secondary, Tertiary and Quaternary. Factors affecting location of economic activities [5][P.K.M]

2. Location of economic activities: Theories of von Thünen, Lösch, and Weber [5][P.D]

3. Location of industries with special reference to India: Cotton, Iron and Steel [5][M.B]

4. Globalisation and integration of world economies [5][P.K.M]

Unit II: Social Geography

5. Human Society: Structure, functions, social systems. Population and migration: overview, causes and effects [5][P.C]

6. Types and characteristics of social organisations: Primitive, hunting–gathering, agrarian, industrial [5][P.C]

7. Race, Language and Religion: Origin, characteristics and spatial variations [6][P.G]8. Social Issues: Diversity, conflict and transformation [5][P.G]

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Unit III: Cultural Geography

1. Carl Sauer: cultural landscape and its elements [6][K.H.A]

2. Rural and urban settlements: Differentiation in cultural landscapes [5][K.H.A]

3. Cultural regions and cultural realms [5][B.D]

4. Diffusion of culture and innovations [4][B.D]

5.6 GEO-G-CC-3-03-P– Human Geography Lab -30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.

1. State-wise variation in occupational structure by proportional divided circles [15][P.C]

2. Time series analysis of industrial production using any two manufactured goods from India [20][P.K.M & P.D]

3. Measuring arithmetic growth rate of population comparing two datasets [15][P.G]

4. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10][B.D & K.H.A]

5. Viva-voce based on laboratory notebook (5 Marks)

Syllabus for GE and HE and syllabus distribution

Semester 5

6.GENERALCOURSE:DISCIPLINESPECIFICELECTIVES

6.1 GEO-G-DSE-A-5-01-TH – Regional Development ▯ 60 Marks / 4 Credits

1. Definition of region. Types and need of regional planning [3] [P.C]

2. Choice of a region for planning; characteristics of an ideal planning region; delineation of planning region [7] [P.K.M]

3. Regionalization of India for planning (agro-ecological zones) [5] [P.C]

4. Strategies/models for regional planning: growth pole model of Perroux [6] [P.G]

5. Growth centre model in Indian context. Concept of village cluster [4][P.G]

6. Problem regions and regional planning. Backward regions and regional plans: special area development plans in India. Damodar4 Valley Corporation: Success and failure [5] [P.K.M]

7. Changing concept of development and underdevelopment; Efficiency-equity debate [5][P.D]

8. Indicators of development: Economic, demographic, and environmental. Concept of human development [5] [P.D]

9. Regional development in India, regional inequality, disparity and diversity [5] [B.D]

10. Development and regional disparities in India since Independence: Disparities in agricultural development [5][B.D]

11. Development and regional disparities in India since Independence: Disparities in industrial development [5][K.H.A]

12. Development and regional disparities in India since independence : Disparities in human resource development in terms of education and health [5] [K.H.A & M.B]

6.2 GEO-G-DSE-A-5-01-P – Regional Development Lab - 30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.

1. Delineation of regions according to given criteria using Weaver's method [15]P.C

2. Determination of sphere of influence by gravity model [15][K.H.A]

3. Measurement of inequality by Lorenz curve and location quotient [15][P.G & P.D]

4. Preparation of Z-score and composite index from suitable data [15][B.D & P.K.M]

5. Viva-voce based on laboratory notebook (5 Marks)

7.GENERALCOURSE:SKILLENHANCEMENTELECTIVES

7.1GEO-G-SEC-A-3/5-01-TH–CoastalManagement 90Marks/2Credits

5. Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms [7][BD]

6. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism [8][PD]

7. Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution [8][KHA & PG]

8. Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India. [7][PKM & PC]

DEPARTMENTAL ACHIEVEMENT

YEAR	C.U combined result	Outstanding
2015-2016	Total number of first class 7	Sima Halder (67%)
2016-2017	Total number of first class 9	Madhumita Mondal (70.25%) Ranked 2nd in C.U exam Himadri Koyal (67.25%) Ranked 9th in C.U exam
2017- 2018	Total number of first class 10	Sarmistha Bose (70.75%) Ranked 3rd in C.U exam **Recruitment in West Bengal College Service Commission** Moumita Mondal appointed as Assistant Professor in RamMohan College for Women's. Aminul Mistri appointed as Assistant Professor in Sagar Mahavidyalaya.
2018-2019	Total number of first class	Debabrata Dakua (61%) Dipanjan Biswas(60.75%) Deepen Halder (62%)
There are huge numbers of student working as assistant teacher, headmaster/head mistress in schools. Huge number of students working in colleges as assistant professor, lectures and guest teachers. Many students engage in government sector as employee like post and revenue, bank, health service etc.		
2019-2020	**Total number of first class**	

SEMESTERSYSTEMMARKSDISTRIBUTIONONTHEBASISOFCLASSATTENDENCE

PERCENTAGE OF ATTENDENCE	MARKS
ABOVE 90%	10
75-90%	8
Above 60%	6

Evaluation Detail

Semester I				Semester II			
Internal Assessment	**Attendance**	**TEST**	**C.U**	**Internal Assessment**	**Attendance**	**TEST**	**C.U**

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Special contact for student correspondence

College Ph no	03218-223668 (Office)
Email	dchcollege@yahoo.com
Website	www.dchcollege.org
Departmental Email	
Face book Page	
Whats App	

Parent Teacher Meeting

Date	Cause	Signature of Gurdian

Students should carry the booklet everyday in the class

Students' feed-back form

1. What is the approximate distance from college to your residence?
2. Educational qualification of parents.
3. Occupation of parents.
4. Does the atmosphere in the college help you acquire knowledge of the subject and improve human relationships?
5. Are you aware of the library facilities provided by the college?
   a) If yes, how often do you use the central and departmental libraries?
   b) If no, what is the reason for not using the libraries?
6. Does the use of computer aided technology in classrooms help you understand the subject better?
7. Are you satisfied with the canteen, drinking water and toilet facilities in the college campus?
8. How often do you approach/consult your teachers individually for advice and guidance on matters both personal and social?

Excursion, 2017-18

Excursion, 2018-19

Excursion,2019-20

Departmental Reunion