



Syllabus  
for  
M.A./M.Sc. Course in Geography

Effective from the Academic Session: 2022-2023

Department of Geography  
Sidho-Kanho-Birsha University  
Purulia, West Bengal  
Pin – 723 104

Revised Syllabus as approved by the Syllabus Committee of Geography,  
Sidho-Kanho-Birsha University on 27-28 July 2022.

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# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

Structure of the Syllabus								
Sem.	Type	Module	Module	Marks Distribution			Credits	Class Hours
				Internal Assessment	End-Term Assessment	Total Marks		
Semester - I (July - December)	Theoretical	MGEOCCT 101	Philosophy of Geography	10	40	50	4	60
		MGEOCCT 102	Geomorphology & Geotectonics	10	40	50	4	60
		MGEOCCT 103	Climatology	10	40	50	4	60
		MGEOCCT 104	Economic Geography	10	40	50	4	60
	Practical	MGEOCCS 105	Surveying and Preparation of Maps	10	40	50	4	120
		MGEOCCS 106	Geospatial Analysis (Visual)	10	40	50	4	120
Semester - II (January - June)	Theoretical	MGEOCCT 201	Hydrology and Oceanography	10	40	50	4	60
		MGEOCCT 202	Soil and Bio-Geography	10	40	50	4	60
		MGEOCCT 203	Regional Planning: Rural and Urban	10	40	50	4	60
		MGEOCCT 204	Population and Socio-Cultural Geography	10	40	50	4	60
	Practical	MGEOCCS 205	Statistical Techniques (including Computer)	10	40	50	4	120
		MGEOCCS 206	General Field Report	10	40	50	4	120
Semester - III (July - December)	Theoretical	MGEOCCT 301	Environmental Geography and Disaster Management	10	40	50	4	60
		MGEOCCT 302	Political Geography & Geopolitics	10	40	50	4	60
		MGEOMET 303	Major Elective (A/B/C)	10	40	50	4	60
		MGEOOET 304	Open Elective: Hazard & Disaster	10	40	50	4	60
	Practical	MGEOCCS 305	RS, GIS & GNSS (Digital)	10	40	50	4	120
		MGEOCCS 306	Research Methodology & Community Outreach	10	40	50	4	120
Semester - IV (January - June)	Theoretical	MGEOCCT 401	Contemporary Geography	10	40	50	4	60
		MGEOCCT 402	Regional Geography of India	10	40	50	4	60
		MGEOMET 403	Major Elective (A/B/C)	10	40	50	4	60
		MGEOACP404	Add-On Course	10	40	50	4	60
	Practical	MGEOCCS405	Major Elective (A/B/C) Practical	10	40	50	4	120
		MGEOMES 406	Dissertation Paper - Major Elective	10	40	50	4	120
<b>Total</b>				<b>240</b>	<b>960</b>	<b>1200</b>	<b>96</b>	<b>1920</b>

**Note.**

**1. Major Elective Papers:**

- A. Population Geography
- B. Advanced Geomorphology
- C. Regional Planning & Urban Geography

**2. Abbreviations:**

- A. GEO: Geography
- B. CC: Core Course
- C. T: Theory Paper
- D. S: Practical Paper
- E. OET: Open Elective (CBCS Option for other Department)
- F. ACP: Add-On (Option given by other Department)



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### About the Department

Established in 2012, the Department of Geography at Sidho-Kanho-Birsha University offers postgraduate programs leading to Master of Arts (M.A.) and Master of Science (M.Sc.) degrees in Geography. Additionally, the department conducts a Ph.D. program, fostering advanced research in the field. Comprising dedicated and experienced faculty members, the department is committed to excellence in both teaching and research.

The department's leadership has played a pivotal role in shaping its academic stature. From 2012 to 2016, Dr. Mrinal Mandal and Dr. Debasis Ghosh guided the department, followed by Prof. Suman Paul from 2016 to till date. During 2022 November to 2024 November, Dr. Anisujjaman took the charge of the Department. Their visionary leadership contributed to its growth, establishing a distinct academic presence in West Bengal, India, and beyond.

Equipped with state-of-the-art laboratories, the department facilitates cutting-edge research and experimentation in diverse subfields of Geography. Over the years, it has cultivated a strong foundation for interdisciplinary collaboration, particularly in Geomorphology, Population Geography, Urban Geography, and Regional Planning.

Through rigorous academic programs, innovative research initiatives, and a commitment to interdisciplinary studies, the Department of Geography continues to uphold its reputation as a center of excellence, fostering intellectual growth and contributing meaningfully to geographical scholarship and societal development.

### The Programme:

The Master of Science in Geography program spans two years, divided into four semesters, and consists of 24 courses totaling 96 credits (4 credits per course). The curriculum is structured into Core and Elective courses. While all students must complete the core courses, they must also select three elective courses (totaling 12 credits).

Students may replace up to one department-offered elective with an open elective course from another department, provided it does not exceed 4 credits. Each semester requires the completion of 24 credits, with major electives in the third and fourth semesters and open electives integrated within the curriculum.

Designed for academic rigor and interdisciplinary flexibility, the program ensures a comprehensive understanding of geographical concepts while allowing students to tailor their studies to their research interests and career aspirations.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Introduction To CBCS (Choice Based Credit System):

#### Scope:

#### Definitions:

With the CBCS, students have the option to select courses from a list of required core and elective courses. The grading method used in the evaluation of the courses ensures consistency in the computation of the cumulative grade point average (CGPA), which is based on the performance of the student in the examinations and allows the student to transfer across institutions of higher learning. Potential employers can evaluate the performance of the candidates thanks to the universality of the evaluation process.

**Academic Programme:** An full course of study, including its programme structure, course information, assessment systems, etc., that is intended to be taught and evaluated in a teaching Department/Centre or jointly under more than one such Department/Centre, is referred to as a "Academic Programme." Course: An academic program's component of a course is a unit of study.

**Program Structure:** "Program Structure" is a list of courses (Core, Elective, and Open Elective) that make up an academic programme, specifying the syllabus, credits, hours of instruction, evaluation and examination schemes, minimum number of credits required for successful completion of the programme, etc., and prepared in accordance with university rules, as well as eligibility requirements for admission.

**Core Course:** A "Core Course" is a course that cannot be replaced by another course and that a student accepted to a certain programme must successfully complete in order to earn the degree.

**Minor Elective:** A "Minor Elective" is a course that a student can choose from among those that are given by another Department or Center.

**Major Elective:** A Major Elective course that is open to students in the same department is referred to as a "Major Elective." Students from the mother Departments may enroll in these courses as long as they meet the requirements for eligibility set forth by the Department providing the course.

**Credit:** "Credit" refers to the grade given to a course, which describes the quality of instruction. One Credit: "One Credit" is equivalent to a weekly one- or two-hour lecture, lesson, or practical. Credit for a practical may be requested as a standalone practical course or as a component of a larger course.

**SGPA:** SGPA stands for Semester Grade Point Average, which is computed for each semester separately.

**CGPA:** CGPA stands for Cumulative Grade Point Average, which is determined using all of the students' previously, completed courses. Every year, the combined grade point average (CGPA) for both semesters is calculated.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Choice Based Credit System: Syllabus in Geography

The Postgraduate syllabi for Geography was framed into a Choice Based Credit System, mostly following the model syllabus prepared by the West Bengal State Council of Higher Education, in accordance with recent directions from the University Grants Commission on 2016-17.

The primary goal of this new curriculum is to provide students with a comprehensive understanding of the topic by giving equal weight to the basic content and methodologies employed in Geography. The syllabus attempts to balance the relevance of the two major fields of geography: physical and human geography. One of the major goals of the syllabus is to help students find employment at the end of their postgraduate studies. On the other hand, initiatives have been taken through syllabus for UGC-NET, CSIR-NET, WEST BENGAL SET, and Civil Services (i.e. UPSC, WBCS, and WBSSC etc.) success.

With this in mind, and in keeping with the ever-changing character of Geography, sufficient focus is placed on applied parts of the topic, such as developing mapping techniques and field-based data production, particularly in the special papers. The syllabus emphasizes the development of fundamental topic abilities, so that no one is forced to pursue further education in order to find professional involvement or work.

### Programme Outcome (POs) in Geography

These outcomes ensure that graduates from the geography postgraduate program are well-equipped for academic research, policy analysis, and practical applications in geographic sciences.

- [1] **Comprehensive Knowledge in Geography** – Graduates will develop a strong theoretical and applied understanding of physical and human geography, integrating contemporary research and advanced methodologies.
- [2] **Analytical and Critical Thinking** – Ability to critically analyze geographical processes, environmental changes, and socio-economic dynamics using qualitative and quantitative approaches.
- [3] **Technical Proficiency in Geospatial Techniques** – Mastery in GIS, remote sensing, and geoinformatics for spatial analysis, hazard mapping, and urban planning.
- [4] **Fieldwork and Empirical Research Skills** – Competency in primary data collection, field surveys, statistical analysis, and geospatial modeling for real-world problem-solving.



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- [5] **Sustainability and Policy Planning** – Application of geographical principles for sustainable development, disaster management, regional planning, and environmental governance.
- [6] **Interdisciplinary Approach and Problem-Solving** – Integration of geography with allied disciplines such as economics, demography, and political science to address contemporary global challenges.
- [7] **Effective Communication and Scientific Reporting** – Proficiency in research writing, academic presentations, and technical report preparation for knowledge dissemination.
- [8] **Ethical and Professional Responsibility** – Commitment to ethical research practices, social justice, and policy-driven geographic interventions for sustainable development.

### Programme Specific Outcome (PSOs) in Geography

- [1] **Advanced Spatial Analysis and Modeling** – Ability to interpret spatial patterns, analyze socio-economic data, and apply geospatial models for regional and urban planning.
- [2] **Climate and Hazard Assessment Expertise** – Proficiency in climate risk evaluation, disaster resilience strategies, and sustainable mitigation planning.
- [3] **Human-Environment Interaction and Policy Integration** – Understanding socio-economic and environmental linkages for designing adaptive policies and governance frameworks.
- [4] **Geospatial Technology Application in Research** – Hands-on expertise in remote sensing, GIS-based decision-making, and statistical modeling for geographic research and applications.



# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

### Semester – I (July to December)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 101	PHILOSOPHY OF GEOGRAPHY (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>CO1:</b> Understanding the <b>evolution of geographical thought</b>, from ancient Greek-Roman traditions to modern scientific geography.</p> <p><b>CO2:</b> Gaining insights into <b>philosophical paradigms</b> in geography, including positivism, humanism, behavioralism, radicalism, and critical geography.</p> <p><b>(b) Skills Gained</b></p> <p><b>CO3:</b> Developing the ability to <b>critically analyze geographical dualisms and debates</b>, such as the Schaefer-Hartshorne debate and the role of idiographic vs. nomothetic approaches.</p> <p><b>CO4:</b> Acquiring skills in <b>evaluating contemporary geographical issues</b>, including gendered spaces, post-colonialism, and the application of geo-spatial technologies.</p> <p><b>(c) Competency Developed</b></p> <p><b>CO5:</b> Enhancing <b>conceptual and analytical thinking</b> by integrating philosophical and methodological perspectives in geography.</p> <p><b>CO6:</b> Applying geographical thought to <b>social justice, spatial organization, and policy formulation</b> in contemporary human-environment interactions.</p>
MGEOCCT 102	GEOTECTONICS AND GEOMORPHOLOGY (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>CO1:</b> Understanding the fundamental concepts of <b>spatial and temporal scales</b>, system dynamics, and feedback mechanisms in geomorphology.</p> <p><b>CO2:</b> Gaining insights into <b>fluvial, coastal, glacial, aeolian, and tectonic processes</b> and their role in shaping Earth's surface, with a special focus on the Indian context.</p> <p><b>(b) Skills Gained</b></p> <p><b>CO3:</b> Developing proficiency in <b>monitoring and measuring landform evolution</b> through field techniques and simulation modeling in fluvial and coastal environments.</p> <p><b>CO4:</b> Acquiring the ability to analyze <b>morphodynamic adjustments of river channels</b> and assess their implications for river basin management.</p> <p><b>(c) Competency Developed</b></p> <p><b>CO5:</b> Applying geomorphological principles to <b>hazard assessment and mitigation</b>, including earthquakes, floods, landslides, and coastal hazards.</p> <p><b>CO6:</b> Integrating geomorphological knowledge into <b>urban planning and engineering projects</b>, ensuring sustainable infrastructure development in diverse landscapes.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – I (July to December)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 103	Hydrology and Oceanography (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Students will gain comprehensive knowledge of hydrological concepts, including surface and subsurface water dynamics, runoff cycles, groundwater fluctuation, and ocean basin morphology.</p> <p><b>C02:</b> Learners will gain understanding of water resource management, flood control, basin management, and urban water conservation.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Students will learn to analyze and manage hydrological parameters like precipitation, evaporation, river discharge, and groundwater fluctuations using scientific methodologies</p> <p><b>C04:</b> Learners will gain expertise in oceanographic and coastal studies, assessing contemporary issues like sea-level change, EEZ, and CRZ</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Students will be equipped to apply hydrological and oceanographic principles in real-world scenarios.</p> <p><b>C06:</b> Learners will gain knowledge on geopolitical aspects of ocean governance, resource exploration, and international maritime policies.</p>
MGEOCCT 104	Economic Geography (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Students will gain insights into resource potential, carrying capacity, conservation, and geopolitical implications of energy resources.</p> <p><b>C02:</b> Students will learn about agricultural patterns, industrial location theories, and service sector development, including ICT and knowledge industries.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Students will be able to assess global trade economics, trade policies, and market networks, including e-commerce trends.</p> <p><b>C04:</b> Students will gain proficiency in connectivity analysis using spatial flow models, network theories, and travel-demand forecasting.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Students will gain competency in resource management, industrial development strategies, and international trade frameworks.</p> <p><b>C06:</b> Students will expertise in optimizing transport networks, balancing economic growth with environmental sustainability.</p>





# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

### Semester – I (July to December)

Mod. No.	Mod. Name	Course Outcome
MGEOCCS 105	SURVEYING AND PREPARATION OF MAPS (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01: Understanding Map Projections and Scale Variations</b> – Knowledge of projection types, properties, and their impact on spatial representation.</p> <p><b>C02: Surveying Techniques and Mapping</b> – Insights into Theodolite, Total Station, GPS, and Drone-based surveys for precise data collection.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03: Application of Thematic Mapping</b> – Ability to analyze soil, crop patterns, and socio-economic indices for spatial representation.</p> <p><b>C04: Environmental Data Collection and Interpretation</b> – Proficiency in soil, water, and air quality assessment for environmental monitoring.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05: Geospatial Decision-Making</b> – Competency in choosing appropriate survey techniques for urban planning and resource management.</p> <p><b>C06: Technical Proficiency in Mapping Technologies</b> – Expertise in handling GIS tools, remote sensing, and digital cartographic techniques.</p>
MGEOCCS 106	GEOSPATIAL ANALYSIS (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding geological structures, topographical maps, and aerial photographs for landform analysis and geospatial interpretation.</p> <p><b>C02:</b> Gaining insights into vulnerability and risk assessment for landslides, floods, riverbank erosion, and coastal hazards.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing expertise in interpreting geological, topographical, and aerial maps for physical and cultural landscape analysis.</p> <p><b>C04:</b> Applying quantitative geospatial techniques such as basin morphometry, stream ordering, and nearest neighbor analysis.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in geospatial techniques for hazard assessment and land-use planning using multi-source geospatial datasets.</p> <p><b>C06:</b> Analytical ability to extract, interpret, and integrate spatial data for decision-making in environmental and hazard studies.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – II (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 201	CLIMATOLOGY (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding atmospheric processes, energy budgets, and climate systems, including monsoons, ENSO, and Indian Ocean Dipole (IOD).</p> <p><b>C02:</b> Gaining insights into climate change effects, disaster resilience, and IPCC assessment reports for informed climate action.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Analyzing weather disturbances, forecasting techniques, and climate classification for practical meteorological applications.</p> <p><b>C04:</b> Evaluating urban flooding, water crises, and adaptive strategies through quantitative and qualitative assessments.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in climate risk assessment, mitigation planning, and disaster preparedness strategies.</p> <p><b>C06:</b> Capacity to integrate scientific climate knowledge into policy frameworks and sustainable development initiatives.</p>
MGEOCCT 202	SOIL AND BIO-GEOGRAPHY (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding soil properties, erosion, and conservation strategies, along with biodiversity conservation and plant ecology principles.</p> <p><b>C02:</b> Gaining insights into animal dispersal, ecological thresholds, ecosystem functions, and the impact of habitat fragmentation.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Analyzing soil fertility, biodiversity patterns, and forest health for sustainable land and ecosystem management.</p> <p><b>C04:</b> Assessing wildlife migration, ecosystem modeling, and conservation strategies using ecological principles and spatial analysis.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in ecological assessment, biodiversity conservation planning, and sustainable forest and wildlife management.</p> <p><b>C06:</b> Capacity to integrate soil, plant, and animal ecology knowledge into environmental policies and ecosystem restoration initiatives.</p>



# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

### Semester – II (January to June)

Mod. No.	Mod. Name	Course Outcome
<b>MGEOCCT 203</b>	<b>SETTLEMENT AND REGIONAL PLANNING (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding rural and urban settlement patterns, theories of evolution, and spatial dynamics in different geographical environments.</p> <p><b>C02:</b> Gaining insights into urbanization processes, rural-urban interactions, and regional planning strategies for sustainable development.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Analyzing settlement morphology, poverty dynamics, and functional classification of cities using theoretical and empirical approaches.</p> <p><b>C04:</b> Assessing urban transport, governance, and smart growth strategies for effective regional and urban planning.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in spatial analysis, settlement hierarchy assessment, and sustainable rural-urban planning frameworks.</p> <p><b>C06:</b> Capacity to integrate socio-economic policies with settlement planning for addressing urban and rural development challenges.</p>
<b>MGEOCCT 204</b>	<b>POPULATION AND SOCIETY (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding population growth theories, migration patterns, and demographic transition impacts on global and Indian population structures.</p> <p><b>C02:</b> Gaining insights into social and cultural geography, including social justice, inequality, and cultural regions in world and India.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Analyzing demographic data, population policies, and development indicators for informed socio-economic planning.</p> <p><b>C04:</b> Assessing social structures, cultural dynamics, and spatial implications of inequality for inclusive policy formulation.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in demographic research, migration analysis, and socio-cultural impact assessment for regional planning.</p> <p><b>C06:</b> Capacity to integrate population dynamics with sustainable development and social policy frameworks</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – II (January to June)

Mod. No.	Mod. Name	Course Outcome
<b>MGEOCCS 205</b>	<b>STATISTICAL TECHNIQUES (Practical Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding statistical techniques, probability distributions, hypothesis testing, and correlation analysis in geographical research.</p> <p><b>C02:</b> Gaining insights into model building, spatial sampling, and multivariate statistical approaches for geographical data analysis.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Applying statistical tests (t-test, ANOVA, regression) and spatial autocorrelation for geographic problem-solving.</p> <p><b>C04:</b> Utilizing SPSS, Excel, and R for data entry, tabulation, regression analysis, and geospatial statistical modeling.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in quantitative data analysis, hypothesis testing, and statistical interpretation in geographical research.</p> <p><b>C06:</b> Capacity to integrate computational techniques, data mining, and spatial statistics for advanced geographic analysis.</p>
<b>MGEOCCS 206</b>	<b>FIELD REPORT (Practical Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding field survey methodologies, data collection techniques, and spatial analysis for geographical research.</p> <p><b>C02:</b> Gaining insights into land use patterns, socio-economic conditions, and environmental dynamics through empirical field observations.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Conducting structured field surveys, interviews, and participatory mapping for primary data collection.</p> <p><b>C04:</b> Applying GIS tools, statistical techniques, and qualitative analysis for field data interpretation and report writing.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Proficiency in designing field-based research, analyzing spatial and socio-economic data, and preparing scientific reports..</p> <p><b>C06:</b> Capacity to integrate field observations with theoretical knowledge for policy-oriented geographic assessments.</p>



# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

Semester – III (July to December)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 301	ENVIRONMENTAL GEOGRAPHY & DISASTER MANAGEMENT (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding environmental policies, global climate change, and disaster risk reduction frameworks like UNDRR and the Sendai Framework.</p> <p><b>C02:</b> Gaining insights into natural, quasi-natural, and anthropogenic hazards, their impacts, and disaster management strategies.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing expertise in environmental monitoring, impact assessment (EIA, EMP), and GIS-based disaster risk analysis.</p> <p><b>C04:</b> Acquiring practical skills in hazard mapping, vulnerability assessment, and disaster preparedness planning.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to assess environmental risks, formulates sustainable management strategies, and contributes to disaster risk reduction.</p> <p><b>C06:</b> Proficiency in disaster mitigation planning, emergency response coordination, and policy evaluation for disaster management.</p>
MGEOCCT 302	POLITICAL GEOGRAPHY & GEOPOLITICS (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding geopolitical theories, territorial organization, and the evolution of political geography with contemporary developments.</p> <p><b>C02:</b> Analyzing India's geopolitical setting, federalism, boundary disputes, and international water conflicts.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing analytical skills to interpret electoral patterns, geopolitical conflicts, and territorial governance.</p> <p><b>C04:</b> Gaining expertise in assessing political strategies, resource conflicts, and international treaties.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to critically evaluate geopolitical challenges, migration issues, and political territorial disputes.</p> <p><b>C06:</b> Proficiency in geopolitical analysis, policy interpretation, and electoral geography assessment.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

Semester – III (July to December)

Mod. No.	Mod. Name	Course Outcome
<b>MGEOCCT 303 (A)</b>	<b>POPULATION GEOGRAPHY – I (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01</b> Understanding demographic concepts, fertility, mortality, migration patterns, and global health hazards.</p> <p><b>C02:</b> Analyzing population dynamics, demographic transitions, and the socio-economic implications of migration.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing proficiency in demographic data analysis using Census, NFHS, and LASI datasets.</p> <p><b>C04:</b> Gaining expertise in applying fertility, mortality, and migration estimation techniques for population studies.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to critically assess population growth, distribution trends, and health-related demographic challenges.</p> <p><b>C06:</b> Proficiency in evaluating migration patterns, global migration issues, and policy implications.</p>
<b>MGEOCCT 303 (B)</b>	<b>GEOMORPHOLOGY– I (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding geomorphic processes shaping fluvial, coastal, and aeolian landscapes.</p> <p><b>C02:</b> Analyzing drainage evolution, sediment transport, and landform development under varying environmental conditions.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing expertise in interpreting river, coastal, and aeolian landform dynamics using geomorphological principles.</p> <p><b>C04:</b> Acquiring analytical skills to assess anthropogenic impacts on fluvial and coastal systems.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to evaluate geomorphic processes influencing landscape evolution and hazard susceptibility.</p> <p><b>C06:</b> Proficiency in applying geomorphological concepts to environmental management and sustainable land use planning.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

Semester – III (July to December)

Mod. No.	Mod. Name	Course Outcome
<b>MGEOCCT 303 (C)</b>	<b>REGIONAL PLANNING &amp; URBAN GEOGRAPHY – I (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01</b> Understanding regional planning theories, urban development strategies, and rural-urban linkages in India and West Bengal.</p> <p><b>C02:</b> Examining policies like NITI Aayog, SEZs, Smart Cities, AMRUT, and HRIDAY for sustainable urban and rural development.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing analytical skills for assessing regional disparities, land use planning, and rural development strategies.</p> <p><b>C04:</b> Acquiring expertise in urban sustainability assessment using SDG Urban Index and evaluating urban renewal projects.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to integrate regional and urban planning principles for balanced territorial development.</p> <p><b>C06:</b> Proficiency in policy analysis and strategic planning for rural and urban growth, addressing socio-economic vulnerabilities.</p>
<b>MGEOCCT 304 – Minor Elective</b>	<b>HAZARD &amp; DISASTER (Theory Paper)</b>	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding hazard classification, disaster risk reduction strategies, and the role of geoinformatics in disaster studies.</p> <p><b>C02:</b> Examining global and regional disaster trends, including climate extremes, sea-level rise, and pandemic histories.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing analytical skills for assessing hazard vulnerability and disaster risk at local, national, and global scales.</p> <p><b>C04:</b> Gaining expertise in disaster management frameworks, including response strategies, institutional roles, and policy planning.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to integrate geospatial tools for disaster risk assessment and mitigation planning.</p> <p><b>C06:</b> Proficiency in formulating disaster management strategies aligned with the Sendai Framework and sustainable development goals.</p>



# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

### Semester – I (July to December)

Mod. No.	Mod. Name	Course Outcome
MGEOCCS 305	GEOINFORMATICS (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding remote sensing principles, satellite data processing, and image classification techniques for geographical analysis.</p> <p><b>C02:</b> Exploring GIS concepts, spatial data handling, geovisualization, and applications in hazard mapping, e-governance, and Web-GIS.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Proficiency in satellite data downloading, image enhancement, classification, and change detection analysis.</p> <p><b>C04:</b> Expertise in GPS, DGPS, spatial data transformation, overlay analysis, and network analysis for geospatial decision-making.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to apply geoinformatics tools for resource management, urban planning, and disaster risk assessment.</p> <p><b>C06:</b> Competency in integrating remote sensing and GIS for advanced spatial modeling and Web-GIS applications.</p>
MGEOCCS 306	RESEARCH METHODOLOGY AND COMMUNITY OUTREACH (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding research design, sampling methods, and statistical techniques for effective data collection and analysis.</p> <p><b>C02:</b> Gaining insights into research ethics, plagiarism detection, and best practices in academic writing and report preparation.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Mastery of data collection, soft computing, and statistical tools for research validation and hypothesis testing.</p> <p><b>C04:</b> Proficiency in structuring research reports, citation methods, and ethical considerations in scholarly writing.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to design and execute research studies with rigorous sampling and analytical frameworks.</p> <p><b>C06:</b> Competency in academic writing, ethical research practices, and effective presentation of findings.</p>





# Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

## Module/ Paper Specific Course Outcome

### Semester – IV (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 401	CONTEMPORARY GEOGRAPHY (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding Sustainable Development Goals, their challenges, measurement indices, and India's commitment to SDG implementation.</p> <p><b>C02:</b> Gaining insights into climate change policies, environmental treaties, and governance frameworks addressing contemporary socio-political issues.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Proficiency in analyzing sustainability challenges, resource management strategies, and urban-rural development policies.</p> <p><b>C04:</b> Ability to assess governance structures, socio-political dynamics, and contemporary urban and rural development missions.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Capacity to evaluate and integrate sustainability frameworks into planning and policy recommendations.</p> <p><b>C06:</b> Competence in critically analyzing government schemes, environmental policies, and socio-political issues in India.</p>
MGEOCCT 402	REGIONAL GEOGRAPHY OF INDIA (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Comprehensive understanding of India's physiography, river systems, and geological diversity, including Himalayan and peninsular formations.</p> <p><b>C02:</b> Insights into demographic trends, socio-economic policies, globalization impacts, and regional disparities across India and West Bengal.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Ability to analyze spatial variations in physical and socio-economic geography using demographic and industrial data.</p> <p><b>C04:</b> Proficiency in assessing regional resource distribution, water scarcity issues, and economic development strategies.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Capability to evaluate regional planning strategies and environmental management approaches for sustainable development.</p> <p><b>C06:</b> Competence in identifying and addressing geographical challenges specific to West Bengal and Rarh Bengal.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – IV (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 403 (A)	POPULATION GEOGRAPHY – II (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding human development indicators, gender disparities, and regional inequalities in India's socio-economic landscape.</p> <p>C02: Insights into health determinants, population policies, and their impact on marginalized communities and social well-being.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Ability to analyze socio-economic datasets related to poverty, gender inequality, and health disparities.</p> <p>C04: Proficiency in evaluating population policies and their effectiveness in addressing demographic challenges.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Capability to assess human development trends and formulate policy recommendations for social empowerment.</p> <p>C06: Competence in identifying and mitigating socio-economic inequalities through research and policy analysis.</p>
MGEOCCS 405 (A)	POPULATION GEOGRAPHY (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding population growth patterns, demographic indicators, and measures of socio-economic development.</p> <p>C02: Learning quantitative techniques for analyzing urbanization, migration, and regional disparities.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Proficiency in computing population measures, life tables, and socio-economic indices.</p> <p>C04: Hands-on experience in using SPSS, STATA, and QGIS for population data analysis.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Ability to analyze demographic trends and interpret socio-economic indicators for policy planning.</p> <p>C06: Expertise in applying statistical and GIS tools for spatial population studies.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – IV (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 403 (B)	ADVANCED GEOMORPHOLOGY – II (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding the role of geomorphology in sustainable landscape planning and engineering applications.</p> <p>C02 Analyzing contemporary geomorphic issues, including climate change impacts on deltas, glaciers, and urban landscapes.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Proficiency in applying geomorphic techniques for hazard management in landslides, floods, and riverbank/coastal erosion.</p> <p>C04: Ability to access and manage geomorphic challenges in urban and reclaimed coastal areas using geospatial tools.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Expertise in evaluating terrain, river discharge, and mining subsidence for sustainable geomorphic management.</p> <p>C06: Capability to integrate geomorphic knowledge into environmental policy and hazard mitigation strategies.</p>
MGEOCCS 405 (B)	ADVANCED GEOMORPHOLOGY (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding fluvial processes through river planform analysis, sediment dynamics, and hydrograph interpretation.</p> <p>C02: Gaining expertise in geomorphic mapping, including floodplain, glacial, and peri-glacial landscapes using remote sensing techniques.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Proficiency in computing river channel indices, sediment analysis, and hydrographic measurements for fluvial studies.</p> <p>C04: Competence in hazard mapping and zonation for landslides, floods, and riverbank erosion using geomorphic datasets.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Capability to integrate geomorphic data with GIS and remote sensing for terrain and hazard assessment.</p> <p>C06: Expertise in analyzing and mapping riverine and coastal sediment characteristics for environmental management.</p>



Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

Module/ Paper Specific Course Outcome

Semester – IV (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOCCT 403 (C)	REGIONAL PLANNING & URBAN GEOGRAPHY – II (Theory Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding regional planning approaches, economic policies, and urban sustainability models for equitable development.</p> <p>C02: Gaining insights into metropolitan governance, urbanization challenges, and theoretical perspectives on city growth and transformation.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Proficiency in regional analysis techniques, including input-output models and regional multipliers for planning applications.</p> <p>C04: Competence in urban land management strategies, sustainable city planning, and metropolitan development frameworks.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Capability to integrate socio-economic and environmental data for strategic regional and urban planning.</p> <p>C06: Expertise in assessing urban resilience, smart growth policies, and sustainable development practices in metropolitan regions.</p>
MGEOCCS 405 (C)	REGIONAL PLANNING & URBAN GEOGRAPHY (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p>C01: Understanding urban and rural spatial structures, inequality measurements, and infrastructural growth assessment techniques.</p> <p>C02: Gaining insights into transport accessibility, urban sustainability, and geoinformatics applications in regional development.</p> <p><b>(b) Skills Gained</b></p> <p>C03: Proficiency in spatial analysis techniques, including Rank-Size Rule, Location Quotient, and Network Analysis for planning.</p> <p>C04: Expertise in GIS-based mapping for urban sprawl, settlement hierarchy, and interactive city planning.</p> <p><b>(c) Competency Developed</b></p> <p>C05: Capability to analyze urban-rural linkages using spatial and statistical techniques for effective regional planning.</p> <p>C06: Ability to integrate geoinformatics and transport modeling for sustainable urban and regional development strategies.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Module/ Paper Specific Course Outcome

#### Semester – IV (January to June)

Mod. No.	Mod. Name	Course Outcome
MGEOMES 406 (A, B & C)	DISSERTATION (Practical Paper)	<p><b>(a) Knowledge Gain</b></p> <p><b>C01:</b> Understanding research design, data collection, and analytical techniques for examining geographical and socio-economic issues.</p> <p><b>C02:</b> Gaining insights into problem identification, hypothesis formulation, and methodological frameworks for spatial and environmental studies.</p> <p><b>(b) Skills Gained</b></p> <p><b>C03:</b> Developing proficiency in fieldwork, data interpretation, and writing a structured academic dissertation.</p> <p><b>C04:</b> Enhancing critical thinking and analytical skills for assessing spatial and socio-economic interrelations.</p> <p><b>(c) Competency Developed</b></p> <p><b>C05:</b> Ability to conduct independent research with scientific rigor, ensuring methodological accuracy and coherence.</p> <p><b>C06:</b> Strengthening capacity for presenting research findings effectively through structured reports and critical discussions.</p>



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCT 101: Philosophy of Geography [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Evolution of Geographical Thought</b>	<b>[15]</b>
1.1	Geographical knowledge of ancient period: Greek-Roman Period	
1.2	Geographical knowledge of medieval period: Indian and Arab geographers	
1.3	Place of geography in the classification of knowledge: After Varenus and Kant	
1.4	Emergence of scientific geography: After Humboldt and Ritter	
<b>Unit: 2</b>	<b>Dichotomy and Dualism in Geography</b>	<b>[15]</b>
2.1	General geography and systematic geography; physical and Human geography	
2.2	Idiographic and nomothetic; qualitative and quantitative	
2.3	Inductive and deductive; subjective and objective	
2.4	Schaefer-Hartshorne debate; areal differentiation and spatial organization	
<b>Unit: 3</b>	<b>Philosophical Influences in Modern Geographical Thought</b>	<b>[15]</b>
3.1	Positivism and empiricism; Quantitative revolution in geography and its challenges	
3.2	Emergence of humanistic and welfare geography	
3.3	Behaviouralism- perception and cognition	
3.4	Radicalism and development of critical geography	
<b>Unit: 4</b>	<b>Contemporary Trends in Geographical Thought</b>	<b>[15]</b>
4.1	Geography of Gender: Feminist Movement, Gender and organization of Geographical space	
4.2	Colonialism, Imperialism and Post-colonialism in Geography	
4.3	Geography of Inequality and Welfare Geography: Social and Territorial Justice	
4.4	Geo-spatial Technology and Contemporary Trends	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

**Number in parenthesis indicating the class hours**

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCT 102: Geotectonics and Geomorphology [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Concepts in Geomorphology</b>	<b>[15]</b>
1.1	Spatial scale, temporal scale and related concepts: Systems, feedback, equilibrium and threshold	
1.2	Models of slope evolution	
1.3	Measurement and monitoring of landform evolution in fluvial and coastal environments; Significance of process studies and simulation modeling	
1.4	Plate tectonics as a unified theory of Global tectonics; Planetary geomorphology	
<b>Unit: 2</b>	<b>Rivers and River Basins</b>	<b>[15]</b>
2.1	River hydraulics: Flow and energy, Hydraulic geometry of streams	
2.2	Catchment processes and fluvial processes, Factors regulating entrainment, Transportation and deposition of sediments, Fluid and sediment dynamics	
2.3	Adjustment of channel forms and patterns to morphodynamic variables	
2.4	Fluvial landforms: Genetic classification, ordering, formation and evolution, Extra channel environments, Humans and rivers	
<b>Unit: 3</b>	<b>Evolution of Landforms</b>	<b>[15]</b>
3.1	Coastal morphodynamic variables and their influence on evolution of coastal forms	
3.2	Classification and evolution of Glacial and Periglacial Landforms	
3.3	Impact of Pleistocene on landform evolution. Quaternary climatic changes and landforms	
3.4	Arid and semi arid geomorphology: Classification and evolution of Aeolian landforms	
<b>Unit: 4</b>	<b>Applied Geomorphology</b>	<b>[15]</b>
4.1	Applied Geomorphology: Meaning and concept, Applied Geomorphology w.r.t. Indian context	
4.2	Geomorphology and hazard management: Earthquakes, Tsunamis, Landslides, Flood, Riverbank erosion, Storm surges	
4.3	Geomorphology and urbanization	
4.4	Geomorphology and engineering works	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCT 103: Hydrology and Oceanography [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Pure Hydrology</b>	<b>[15]</b>
1.1	Evolution of hydrological concepts, forms, occurrence and properties of water	
1.2	Surface and subsurface hydrology: concept, properties, components and measurement of Runoff, runoff cycle and infiltration	
1.3	Hydrological parameters: Concept, measurement, management of precipitation, evaporation, evapotranspiration and velocity and discharge of rivers	
1.4	Groundwater hydrology: Concept and Classification, Aquifer, Aquifer distribution, Groundwater Storage and fluctuation and Management (Application of Darcy's Law)	
<b>Unit: 2</b>	<b>Applied Hydrology</b>	<b>[15]</b>
2.1	Application of hydrological knowledge for flood and riverbank erosion control	
2.2	Water management in tropical cities: Techniques and approaches. Rainwater harvesting	
2.3	Principles of integrated basin management with reference to micro-watershed planning and check dam construction	
2.4	Surface water and groundwater quality assessment and management	
<b>Unit: 3</b>	<b>Morphology of Ocean Basin</b>	<b>[15]</b>
3.1	Origin, morphology and structures of continental shelf, continental slope, abyssal plain and sub marine canyon	
3.2	Origin, structure and bottom topography of Indian Ocean	
3.3	Properties of ocean water – Physical and chemical properties, Air-sea interactions. sea interactions, Origin, types and evolution theories of tide, Wave and coral reef	
3.4	Oceanic sediments- origin, types and significance	
<b>Unit: 4</b>	<b>Contemporary Issues in Oceanography</b>	<b>[15]</b>
4.1	Ocean as resource: Exploration and anthropogenic utilization of the oceans	
4.2	Sea level change: Causes and consequences and evidences	
4.3	EEZ and CRZ: delimitation, significance and policy issues	
4.4	Geopolitics of Oceanic Resources with special reference to Asia-Pacific Region, Belt and Road Initiatives – Maritime route	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.





## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCT 104: Economic Geography [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Concept of Resource</b>	<b>[15]</b>
1.1	Resource and its Dynamism; Resource potential and stock, Carrying capacity of resource	
1.2	Distribution of land, water and biotic resources	
1.3	Approaches– Regional approach, production approach, ecological approach	
1.4	Resource conservation and management, geopolitics of Energy Resources	
<b>Unit: 2</b>	<b>Economic Activities</b>	<b>[15]</b>
2.1	Types of Economic Activities: Factors affecting spatial organisation of economic activities	
2.2	Agriculture: - Cropping Pattern: Methods of delineating crop combination regions (Weaver, Doi and Rafiullah), Crop diversification, Von Thunen's Model of Land Use Planning	
2.3	Industries: - Factors of Industrial Location; Theories of Industrial Location (A. Weber, E.M. Hoover, A. Losch)	
2.4	Service Sectors: Growth of Information and Communication Technology (ICT) and Knowledge Production (Education and R & D) Industries, Knowledge cluster	
<b>Unit: 3</b>	<b>Trade and Commerce</b>	<b>[15]</b>
3.1	Economics of global trade: Balance of payment, role of WTO, IMF and World Bank	
3.2	Regional blocks in international trade-EU, ASEAN, NAFTA/BRICS	
3.3	Trade policy: Liberalization, Privatization and Globalization; PPP approach	
3.4	Market network and linkages: Market centres, periodic and daily marketing, retailing and whole selling, E-commerce	
<b>Unit: 4</b>	<b>Transport and Economy</b>	<b>[15]</b>
4.1	Geography of Transportation and its significance, Modes of transport and Comparative cost advantages	
4.2	Measures and Indices of connectivity and accessibility	
4.3	Spatial Flow Models: Graph Theory; Network and nodal connectivity (Inter-regional and Intra regional), Travel-Demand Forecasting Model	
4.4	Environment and transport: Inter linkages and consequences	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

**Number in parenthesis indicating the class hours**

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCS 105: Surveying and Preparation of Maps [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Map Projection</b>	<b>[30]</b>
1.1	Concept and properties of map projection	
1.2	Gnomonic and Stereographic (Equatorial case)	
1.3	Gall's, Sinusoidal, UTM	
1.4	Choice and uses of Map Projections, Problems of scale variation related to projection	
<b>Unit: 2</b>	<b>Surveying and Preparation of Maps</b>	<b>[30]</b>
2.1	Basic principles of survey	
2.2	Theodolite Survey: Traversing and Triangulation Survey, Object height determination by oblique plane	
2.3	Total Station and GPS Survey	
2.4	Drone Survey and Mapping	
<b>Unit: 3</b>	<b>Thematic Mapping</b>	<b>[30]</b>
3.1	Soil Survey and mapping	
3.2	Weber's crop combination, Cropping intensity	
3.3	Location quotient, Quality of Life Index	
3.4	Gravity model, Dominant Distinctive Function	
<b>Unit: 4</b>	<b>Environmental Data Analysis and Mapping</b>	<b>[30]</b>
4.1	Soil Sample collection and analysis of physico-chemical properties	
4.2	Water Sample collection and analysis of physico-chemical properties	
4.3	Air Pollution data and Measuring Ambient Air Quality	
4.4	Assessment of Human health and Nutrition	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**  
Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – I (July to December)

#### MGEOCCS 106: Geospatial Analysis [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Geological Map</b>	<b>[30]</b>
1.1	Basic concepts of Geological Map and Identification of Geological structures	
1.2	Simple horizontal and uniclinal structure	
1.3	Geological maps for folded and faulted structure	
1.4	Interpretation of Geological Map	
<b>Unit: 2</b>	<b>Analyses of Topographical Maps</b>	<b>[30]</b>
2.1	Numbering of topographical maps, Comparative utility of topographical maps, aerial photos and satellite images as sources of geographical data	
2.2	Interpretation of physical and cultural landscapes: (a) Relief, (b) Drainage, (c) Vegetation, (d) Settlement and (e) Transport	
2.3	Basin Morphometry: Relief and Drainage character through Average Slope, Ruggedness Index, Drainage Density, Braiding index, Sinuosity index, Radius of curvature; Stream ordering	
2.4	Nearest Neighbour Analysis, Shortest path matrix, Correlation analysis, Transect chart	
<b>Unit: 3</b>	<b>Analyses of Aerial Photographs</b>	<b>[30]</b>
3.1	Principles of Aerial Photographs, Aerial Photograph, Toposheet and Satellite Image	
3.2	Geometry of Aerial Photograph: Photo scale, height of flight, Endlap and Sidelap, Relief Displacement	
3.3	Extraction and interpretation of physical features from Aerial Photographs	
3.4	Extraction and interpretation of cultural features from Aerial Photographs	
<b>Unit: 4</b>	<b>Vulnerability and Risk Assessment</b>	<b>[30]</b>
4.1	Landslide Vulnerability zonation	
4.2	Flood Hazard Vulnerability zonation	
4.3	River bank erosion Vulnerability zonation	
4.4	Coastal Hazard vulnerability	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

Pattern of setting questions:

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – II (January to June)

#### MGEOCCT 201: Climatology [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Atmospheric Processes</b>	<b>[15]</b>
1.1	Concept, nature and scope of climatology and its relationship with Meteorology	
1.2	Global Climate system, variations of atmospheric composition, temperature, pressure	
1.3	Nature of radiation and radiation laws; Energy budget of the Earth atmospheric system	
1.4	Controlling forces of wind motion; Pressure gradient force; Coriolis force, Frictional force, Convergent and Divergent forces	
<b>Unit: 2</b>	<b>Condensation and Precipitation</b>	<b>[15]</b>
2.1	Water vapour and Atmosphere, Evaporation and Condensation, Stability and Instability in Atmosphere, isothermal processes, Theories of Rain Drop Formation	
2.2	Water budgets, Global and Regional water balance, Water crisis in Urban India	
2.3	Monsoon: origin, characteristics and relationship with Jet streams, Numerical model of monsoon; MONEX, Walker circulation and ENSO phenomena, Indian Ocean Dipole (IOD)	
2.4	Precipitation and inundation: Urban, Coastal; Cloud Burst and Flood	
<b>Unit: 3</b>	<b>Weather Disturbances and Forecasting</b>	<b>[15]</b>
3.1	Classification of world climate – Thornthwaite, Trewartha	
3.2	Air mass; Fronts and Tornadoes, Temperate and tropical cyclones and anti-cyclones	
3.3	Weather forecasting: Methods, Tools and Techniques	
3.4	Atmospheric Health, Urban Heat Island	
<b>Unit: 4</b>	<b>Climate Actions</b>	<b>[15]</b>
4.1	Climatic changes and cycle, recent climate changes and their effects: Drought, Flood, Sea Level Rise, Sea Surface Temperature	
4.2	Exposure, Sensitivity, Resilience and Adaptive Capacity to Climate related Hazards and Disasters	
4.3	IPPC-Assessment Report: AR-4, AR-5 and AR-6	
4.4	Education, Awareness and Capacity Building for Climate Change Mitigation: Individual, institutional and Social responses	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – II (January to June)

#### MGEOCCT 202: Soil and Bio-Geography [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Soil Geography</b>	<b>[15]</b>
1.1	Soil as a component of Biosphere; Concept of land and soil; Plant-water soil relationship	
1.2	Soil nutrients and organisms; Role of physico-chemical properties in soil fertility and productivity	
1.3	Classification and world pattern of soil	
1.4	Soil erosion and degradation: causes and consequences; Conservation and management	
<b>Unit: 2</b>	<b>Plant Geography</b>	<b>[15]</b>
2.1	Plant Ecology: habitat factors; Plant responses to environment; Adaptation, succession and climax; Domestication of plants, TAXONOMY	
2.2	Biodiversity and its conservation, Biodiversity hotspots, Concept of deep ecology	
2.3	Deforestation, Habitat fragmentation, forest policy, Forest health assessment	
2.4	Forest and wild habitat conservation: Participatory forest management, JFM	
<b>Unit: 3</b>	<b>Zoo Geography</b>	<b>[15]</b>
3.1	Theory of evolution of species and its critics	
3.2	Dispersal of animals in different geological periods	
3.3	Dispersal and migration of animals; means and barriers; Zoo-geographical regions of the world	
3.4	Principles of animal ecology; Wild life management; Relevance of sanctuaries with special reference to India	
<b>Unit: 4</b>	<b>Ecosystem and Ecology</b>	<b>[15]</b>
4.1	Concept of ecology, landscape ecology, basic principles of ecology, ecological threshold and ecological extinction	
4.2	Ecosystem classification, types and functions	
4.3	Ecosystem services, ecosystem modelling, ecotone, ecotope and eutrophication	
4.4	Energy flow models and ecosystem instability through destruction and conflict	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – II (January to June)

#### MGEOCCT 203: Settlement and Regional Planning [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Rural Settlement</b>	<b>[15]</b>
1.1	Nature, scope, significance and approaches to study Settlement Geography, Development of Settlement Geography	
1.2	Theories of evolution of settlements and Geographical factors affecting growth of settlement distribution, Types of Rural Settlement	
1.3	Site, location, types and pattern of Rural Settlement, Morphology of rural settlement	
1.4	Rural House types: planned and architectural style in different geographical environment, Types and Pattern of rural settlements with reference to Hills (Darjeeling), Plateau (Chotanagpur) and Coast (Sundarban)	
<b>Unit: 2</b>	<b>Rural Development</b>	<b>[15]</b>
2.1	Rural Development: Concept, Types, Dynamics and Objectives; Rural-Urban Differences	
2.2	Lewis Theory of Development; Theory of Big Push; Marxian Concept of Development; Schultz's Transformation of Traditional Agriculture	
2.3	Concept of Rural Area, Size and structure of Indian rural economy; Characteristics of rural sectors; Role of agricultural and non-agricultural sector; Causes of Rural Backwardness	
2.4	Types of Rural Poverty; Incidence of Rural Poverty; Measurement of Rural Poverty; Poverty Estimates; Causes and Consequences of Rural Poverty; Poverty eradication policies	
<b>Unit: 3</b>	<b>Urban Geography</b>	<b>[15]</b>
3.1	Origin of the cities: Ancient and Medieval, Industrial growth and urban expansion	
3.2	Functional classification of urban centres: Harris and Nelson, Functional classification of Indian cities: Ashok Mitra & others	
3.3	Settlement Hierarchy and Policies: Rural service center, Central Place theory (Christaller), Theory of Losch and its application, Rank Size Rule and Primate City	
3.4	Urban growth in India since Independence, Problems and Prospects of Urbanisation in India	
<b>Unit: 4</b>	<b>Urban Planning</b>	<b>[15]</b>
4.1	Conceptualize Urban, urbanization, urbanism and urban ecology, Rural urban fringe: structure, characteristics and functions, rural urban interaction, gentrification and degentrification	
4.2	Cities and suburbs: Suburban Sprawl, Smart growth, Exurbs, the New Cities and Gated communities	
4.3	Manifestations of Poverty in Cities: Slums, Informal Sectors, Crime and Social exclusion	
4.4	Urban Transport, Urban Governance, Urban poverty, JNNURM & AMRUT	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### MGEOCCT 204: Population and Society [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Introduction to Population</b>	<b>[15]</b>
1.1	Chronological Development of Population Geography	
1.2	Trends, Pattern and Distribution of population growth in world and India	
1.3	Theories of Population growth-Malthus, Marx, Saddler, Ricardo and Demographic Transition Theory	
1.4	Migration-concept, types, patterns, causes and consequence	
<b>Unit: 2</b>	<b>Population and Development</b>	<b>[15]</b>
2.1	Sources of Population data (Census, Sample surveys and Vital statistics)	
2.2	Population resource region; Rostow's model; Demographic dividend, Burden & bonus	
2.3	Population & development outcomes: Educational attainment, employment and Poverty	
2.4	Population polices and planning in lower/middle/upper countries	
<b>Unit: 3</b>	<b>Social Geography</b>	<b>[15]</b>
3.1	Social Geography: definition, scope, content, Social Geography in the realm of social sciences and its relation with Sociology and Anthropology	
3.2	Elements: Social structure, Social processes and Social space	
3.3	Social well-being: Concepts and indicators, Social change, Social justice and inequality	
3.4	Social Planning: Constitutional provisions, Inclusive growth and its measures; spatial implications	
<b>Unit: 4</b>	<b>Cultural Geography</b>	<b>[15]</b>
4.1	Concept and development of cultural geography, Cultural Hearth and Cultural Realm	
4.2	Components and structure of Culture	
4.3	Politics of Difference: Caste, class, Race and gender	
4.4	Cultural regions of world and India	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – II (January to June)

#### MGEOCCS 205: Statistical Techniques [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Basic Statistics</b>	<b>[30]</b>
1.1	Data Processing and Frequency Distribution	
1.2	Spatial Sampling Techniques and Estimation – Point and Areal, Rank Score, Weighted Score, Likert's scale	
1.3	Probability in Problem Solving - Elementary Probability Theory; Random Variables and Probability Distributions; Normal Distribution; Binomial Distribution; Poisson Distribution	
1.4	Testing Hypotheses in a Geographic Context - Point and Interval Estimation; Key Steps in Testing Hypotheses; Statistical Significance; Two Samples: The t Test; Analysis of Variance (ANOVA), Post Hoc analysis	
<b>Unit: 2</b>	<b>Statistical Approach in Geography</b>	<b>[30]</b>
2.1	Correlation Analysis - Product Moment Correlation; Non-Parametric Correlation; Areal Association; Spatial Autocorrelation	
2.2	Principal Component Analysis and Mapping, Matrices and Determinants	
2.3	Model building in geography: Population Potential, AHP, DEMATEL	
2.4	Partial and Multiple Correlation, Surface Trend Analysis	
<b>Unit: 3</b>	<b>Computer Application in Geography: I</b>	<b>[30]</b>
3.1	Fundamentals of computer, Work on Microsoft Excel / SPSS/ R: Data entry, tabulation	
3.2	Data analysis (Central Tendencies, Regression analysis, time-series plotting, Dendogram)	
3.3	Application of SPSS in Geography: Descriptive Statistics, One-way & Two-way ANOVA	
3.4	Bi-variate regression, Partial regression, Multinomial regression	
<b>Unit: 4</b>	<b>Computer Application in Geography: II</b>	<b>[30]</b>
4.1	Data mining from internet sources: Preparation of an inventory	
4.2	Tabulation of data and its graphical representation from: Census of India (PCA)	
4.3	Tabulation of data and its graphical representation from: Socio-Economic Caste Census (SECC)	
4.4	Tabulation of data and its graphical representation from: National Family & Health	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.





## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

Semester – II (January to June)

**MGEOCCS 206: Field Report [4 Credits – 120 hours]**

<b>Field Report</b>	<b>25 Marks</b>
<b>Viva-voce</b>	<b>15 Marks</b>
<b>Internal Assessment (Group Study)</b>	<b>10 Marks</b>

### Guidelines on execution:

- The place of study must be select within the state West Bengal or neighbouring states
- The work is to be based mainly on processing of primary data collected from field with the help of appropriate schedules for physical and socio-economic survey, stressing on any local problem or any contemporary issue
- The following are to be taken as base maps, subject to availability: (i) cadastral maps, (ii) 1:50,000 and/or 1:25,000 toposheets and (iii) Satellite imageries and/or data
- Interrelations between different aspects of the study should be the focus of the Report
- Text of the Report should not exceed 5,000 words and should ideally be divided into the following sections: Introduction, Statement of problem(s) and Objectives, Materials and methods, Results Discussions, Conclusion, References / Bibliography and Appendices (if any)
- Maps, diagrams and sketches, excluding photographs, should not exceed 50 pages of A4 size paper
- Handwritten Report duly endorsed by the Supervisor(s) is to be produced individually by the students. Photocopying and computer typing are strictly restricted.

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

**Field Report & Viva-voce by External Expert: 25+15 = 40**

**Internal Assessment: 10**



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### **MGEOCCT 301: Environmental Geography & Disaster Management [4 Credits – 60 hours]**

<b>Unit: 1</b>	<b>Environmental Geography</b>	<b>[15]</b>
1.1	Various approaches to environment, Concept of holistic environment	
1.2	Concept of environmental health, monitoring and planning, Environmental pollution with special reference to air and water pollution	
1.3	Public health and Environment	
1.4	Global climate change and its impact on natural and human environment	
<b>Unit: 2</b>	<b>Environmental Policy and Management in India</b>	<b>[15]</b>
2.1	Environmental perception, Environmental policy, law and institutions, Environmental ethics	
2.2	Global environmental conventions and agreements, Environmental movements in India	
2.3	Wetland scenario, types, reclamation and conservation, Wasteland scenario, types, problems and conservation	
2.4	Contemporary environmental issues and management, EIA, EMP, Environmental audit, environmental statement and sustainable development	
<b>Unit: 3</b>	<b>Hazard and Disaster – Concept and Classification</b>	<b>[15]</b>
3.1	Hazard, Exposure, Sensitivity, Coping Capacity, Vulnerability & Risk; Hazard & Disaster, Classification of Hazard & Disaster	
3.2	Study of Natural Hazards: Tsunami in Andaman & Nicobar Island, Cloud Burst in Uttaranchal Landslide in Darjeeling & Sikkim Himalaya, Cyclones in Indian Sundarban	
3.3	Study of Quasi-natural Hazards: Drought in Purulia & Bankura district, Flood in Hoogly-Medinipur district, River Bank erosion in Maldah and Murshidabad district, Man-Animal Conflict in Dooars, Jungle Mahal and Sundarban	
3.4	Study of Anthropogenic Hazards: Covid-19 Pandemic, Terrorism; Poverty & Crime; Global Refugee problems	
<b>Unit: 4</b>	<b>Hazard and Disaster Management</b>	<b>[15]</b>
4.1	Education for Hazard and Disaster Risk Reduction, Essentials of Pre, during and post recovery Planning	
4.2	Training for disaster preparedness, Awareness generation program, Usages of GIS and Remote sensing in disaster management	
4.3	Basic principles of disasters management, Disaster Management cycle, Disaster management policy, National and State Bodies for Disaster Management	
4.4	Disaster Risk Reduction: UNDRR, Sendai Framework	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

**Number in parenthesis indicating the class hours**

**Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### MGEOCCT 302: Political Geography & Geopolitics [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Introduction of Political Geography</b>	<b>[15]</b>
1.1	Population Geography & Demography: concept, nature, scope and content	
1.2	Factors affecting population growth, density and distribution	
1.3	Concept of Over/Optimum/Under population, stable and stationary population	
1.4	Sources and uses of various types of demographic data: Census, NFHS, LAS	
<b>Unit: 2</b>	<b>Fertility and Nuptiality</b>	<b>[15]</b>
2.1	Fertility & Nuptiality: Term, concept, pattern and theories	
2.2	Pattern & behavioural changes in fertility transition in developed and developing countries	
2.3	Techniques & Models: Basic, Order-specific, cohort & birth interval analysis, Bongaarts Fertility model	
2.4	Estimates of Singulate Mean Age at Marriage (SMAM)-synthetic & decadal synthetic cohort method	
<b>Unit: 3</b>	<b>Geopolitics</b>	<b>[15]</b>
3.1	Evolution of Geopolitical thought, Geopolitical World Orders: Geopolitical Codes	
3.2	Approaches: Realist, Critical and Feminist	
3.3	Geopolitics of Resources: Resource conflict, Resource Curse, Political and Economic blocs	
3.4	Geopolitics of Migration: Refugee, Xenophobia, Genocide; Internally Displaced Persons (IPDs)	
<b>Unit: 4</b>	<b>Political Geography of India</b>	<b>[15]</b>
4.1	Geopolitical setting of India; India's Power- Soft Power and Hard Power, Treaties and Alliances	
4.2	Territorial organization: Mughal Empire, British Colonialism, Re-organization of Indian states since Independence. Federalism in India	
4.3	Boundary: Delimitation, demarcation and delineation; disputes with neighbouring countries	
4.4	International water Disputes: Indus, Ganges, Brahmaputra and Tista rivers	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### MAJOR ELECTIVE – GROUP A MGEOMET 303: Population Geography – I [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Introduction of Population</b>	<b>[15]</b>
1.1	Nature, scope, content of Political geography; Recent Development in Political Geography	
1.2	Approaches to Political Geography: Functional, Landscape and Unified Field Approach	
1.3	Theories of Mahan, Mackinder and Spykeman	
1.4	Electoral Geography: concepts, Psephology, place and voting pattern, Representation, Gerrymandering	
<b>Unit: 2</b>	<b>Fertility and Nuptiality</b>	<b>[15]</b>
2.1	Fertility & Nuptiality: Term, concept, pattern and theories	
2.2	Pattern & behavioural changes in fertility transition in developed and developing countries	
2.3	Techniques & Models: Basic, Order-specific, cohort & birth interval analysis, Bongaarts Fertility model	
2.4	Estimates of Singulate Mean Age at Marriage (SMAM)-synthetic & decadal synthetic cohort method	
<b>Unit: 3</b>	<b>Mortality, Morbidity and Global Health Hazards</b>	<b>[15]</b>
3.1	Definition, needs and important of mortality and morbidity study with special reference to the developed-developing countries	
3.2	Measurement of Mortality CDR, ASDR, IMR, U5MR, Maternal Mortality Rate/Ratio, Life Table	
3.3	Incidence and Prevalence Rate, Measures of Global Burden of Disease (GBD)	
3.4	Concept and definitions, types of epidemiological health hazards in India, Environment & Health	
<b>Unit: 4</b>	<b>Migration and Development</b>	<b>[15]</b>
4.1	Overview of migration and mobility: concepts, pattern, theories, determinants and consequences	
4.2	Internal and International Migration: Definitions, typologies and types	
4.3	Measures of Internal migration: Direct & Indirect estimation	
4.4	Global migration, Asylum seeker, Refugees and Diasporas	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### MAJOR ELECTIVE – GROUP B

#### MGEOMET 303: Advanced Geomorphology – I [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Fluvial Geomorphology</b>	<b>[15]</b>
1.1	Evolution of drainage system; properties of drainage basin and channel pattern	
1.2	Discharge, Flow; energy; hydraulic geometry	
1.3	Sediment yield Erosion, transportation and deposition; potholes, alluvial fan, river terrace, bar and delta	
1.4	Floodplain evolution and morphology and planform dynamics	
<b>Unit: 2</b>	<b>Coastal Geomorphology</b>	<b>[15]</b>
2.1	Coastal morphodynamics: Process, forms and relations	
2.2	Evolution of coastal landforms and its classification	
2.3	Process and effect of bioturbation; bio-tidal accretion	
2.4	Anthropogenic impacts on coast and estuary	
<b>Unit: 3</b>	<b>Aeolian Geomorphology</b>	<b>[15]</b>
3.1	Aeolian landforms: Process and Evolution	
3.2	Evolution and morphology of dunes	
3.3	Evolution and morphology of Inselbergs, tor, Mushroom rock, Badlands on lateritic Duricrust	
3.4	Modification of Aeolian landscapes	
<b>Unit: 4</b>	<b>Glacial and Periglacial Geomorphology</b>	<b>[15]</b>
4.1	Glacial Processes: Temporal and Spatial Extend	
4.2	Evolution of glacial landforms: special reference to Morphological evolution of Cirque, Corrie, Glacial Lake, Moraine and Outwash plain	
4.3	Global climate change and impact on glacier	
4.4	Evolution and processes of Periglacial landform	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### MAJOR ELECTIVE – GROUP C

#### MGEOMET 303: Regional Planning & Urban Geography – I [4 Credits – 60 hours]

Unit: 1	Regional Planning	[15]
1.1	Concept of region and regionalization, Classification of Regions: based on Principle (Homogeneity and Interlinking regions), based on Size (Macro, Meso, Micro & Minor), based on Genesis (Naïve, Instituted & Denoted)	
1.2	Planning Regions of India; purpose and methods of delineation of Planning Region	
1.3	Concept of Balanced & Unbalanced Growth, Regional disparities in India and Five year plans, NITI Aayog	
1.4	Land Evaluation and Land Capability; Land Use Planning in India: Rural and Urban	
Unit: 2	Rural Planning & Development	[15]
2.1	Need for Rural Development in India with special reference to: poverty, illiteracy, unemployment, migration, and land issue	
2.2	Concept and Approaches to Rural Development: Gandhi's and Tagore's perspective; Sectoral Approach; Area Approach; Target Group Approach; Service Centre Approach and Rural Livelihood Approach	
2.3	Vulnerabilities, prospects & potentialities of Target Area and Target Population: Case Studies from West Bengal – Border Area, Drought prone Area, Tribal Area, Hilly Area & Coastal Area	
2.4	Role of NABARD, Micro Finance Institutions, NGOs and Civil Society Organizations in rural development	
Unit: 3	Urban Planning & Development	[15]
3.1	Metropolitan concept, Metropolis, Metropolitan area, Metropolitan region, Mega-city & Primate city. Need, Importance and Concept of Urban Planning, National Policies on Urbanization	
3.2	Problem of planning: Growth Foci; Metropolitan Concept: Metropolis, Metropolitan Area, Metropolitan Region, City region	
3.3	Planned Town: concept; New Towns of India, Smart city in Indian perspective	
3.4	Urban Renewal vs. Urban Redevelopment, Urban Sustainability in India – SDG Urban index	
Unit: 4	Regional Planning Approach: India & West Bengal	[15]
4.1	Regional Development policies in India, Identification and Developmental Policies for Backward region, Transfer of Resources from Central to State	
4.2	Rural-Urban linkage, Rural-Urban migration, AMRUT Scheme and HRIDAY Scheme	
4.3	Special Economic Zones: Perspectives of Development with special reference to West Bengal	
4.4	Land Acquisition & Challenges, Flagship Programmes in West Bengal: Success and Challenge	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

Semester – III (July to December)

### MINOR ELECTIVE

**MGEOOET 304: Hazard and Disaster [4 Credits – 60 hours]**

<b>Unit: 1</b>	<b>Concept of Hazard and Disaster</b>	<b>[15]</b>
1.1	Concept of Hazard, Vulnerability & Risk	
1.2	Classification of Hazards: Natural, Quasi-natural, Anthropogenic	
1.3	Disaster Risk Reduction & Developmental Planning	
1.4	Geoinformatics in Hazard and Disaster studies	
<b>Unit: 2</b>	<b>Hazard and Disaster Phenomena: Global Trend</b>	<b>[15]</b>
2.1	Hazard & Disaster: Global scenario, Death Toll, Displacement, Economic Loss	
2.2	Sea Level Rise and Coastal Inundation	
2.3	Climate Extremes and Livelihood Vulnerability	
2.4	Historical Overview of Pandemic	
<b>Unit: 3</b>	<b>Hazard and Disaster: India and West Bengal Perspective</b>	<b>[15]</b>
3.1	Earthquake and Landslides in Himalayas	
3.2	Tsunami in Andaman-Nicobar Islands & Cyclonic Hazard in Coastal West Bengal and Odisha	
3.3	Cold Wave in North India & Heat Wave in Central India	
3.4	Flood in Gangetic West Bengal & Drought in Western India	
<b>Unit: 4</b>	<b>Hazard and Disaster Management</b>	<b>[15]</b>
4.1	Disaster Management Approaches: Relief to Response Centric	
4.2	Role of Central, State, NGOs and Civil Societies for Disaster Management	
4.3	Role of Educational Institutions for Disaster Management	
4.4	Sendai Framework for Disaster Risk Reduction	

**Full Marks- 50 (End term Examination- 50)**

Number in parenthesis indicating the class hours

**Pattern of setting questions:**

Candidate has to answer 2 Marks, 5 Marks and 10 Marks questions.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – III (July to December)

#### MGEOCCS 305: Geoinformatics [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Remote Sensing</b>	<b>[30]</b>
1.1	Basic concept on Multispectral data, Hyperspectral Data, LIDAR Data	
1.2	Satellite Data downloading, Layer stacking and creation of SFCC, Image enhancement method, Spectral library	
1.3	Knowledge Base Classification, Image Data Fusion	
1.4	Creation of LULC, Change Detection Analysis	
<b>Unit: 2</b>	<b>Geographical Information System</b>	<b>[30]</b>
2.1	GIS spatial concepts; roles of GIS components, Spatial registration; modes of geographic information	
2.2	GIS thematic mode; data model complications, Vector and raster data handling and transformation	
2.3	Spatial data transfer, Spatial autocorrelation, Topology and network analysis	
2.4	Geovisualization; GIS classification methods, Overlay analysis	
<b>Unit: 3</b>	<b>GNSS, GPS &amp; DGPS</b>	<b>[30]</b>
3.1	Introduction to GNSS, Introduction to GPS, Elements of GPS	
3.2	Error Sources and Positioning Types of GPS	
3.3	Handheld GPS Receiver, DGPS Data Collection	
3.4	Mobile Mapping & LBS	
<b>Unit: 4</b>	<b>Application of Geoinformatics in Geographical Modelling</b>	<b>[30]</b>
4.1	Application of Geoinformatics on Natural Resource Management	
4.2	Application of Geoinformatics on E-governance	
4.3	Application of Geoinformatics on Hazard Mapping	
4.4	Application of Geoinformatics on Web-GIS	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

**Pattern of setting questions:**

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.





## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

Semester – III (July to December)

### MGEOCCS 306: Research Methodology and Community Outreach [4 Credits – 120 hours]

#### GROUP – A: RESEARCH METHODOLOGY [60]

##### Unit: 1 Research Formulation & Design [30]

- 1.1 Research: Meaning, types, significance, criteria of good research
- 1.2 Research Problem: Selecting the Problem, Defining the Problem, Technique Involved in Defining a Problem
- 1.3 Research Design: Meaning and need for Research Design, Different Research Designs, Principles of Experimental Design
- 1.4 Sampling: Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size, Non Response. Characteristics of a good sample. Probability Sample – Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample – Practical considerations in sampling and sample size

##### Unit: 2 Data Collection, Soft Computing & Research Ethics [30]

- 2.1 Techniques of method validation, observation and collection of data, methods of data collection, sampling methods, data processing and analysis strategies and tools, Measurement and Scaling Techniques
- 2.2 Data Analysis: Data Preparation – Uni-variate analysis (frequency tables, bar charts, pie charts, percentages), Bi-variate analysis – Cross tabulations and Chi-square test including testing hypothesis of association
- 2.3 Ethics: ethical issues, ethical committees (human & animal); citation and acknowledgement, plagiarism, Predator journal identification (SBPP Software)
- 2.4 Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports, Conclusions

**End Semester Examination: 20 Marks**

**Internal Assessment: 5 Marks**

#### GROUP – B: COMMUNITY OUTREACH [60]

**Internal Assessment (Attendance & Group Study): 5 Marks**

**Report Writing: 10 Marks**

**Viva-voce: 10 Marks**

##### **Guidelines on execution:**

- a) The place of study must be select within 5 km of the University/ locality where student dwelled.
- b) The work is to be based mainly on processing of primary data collected from field with the help of appropriate schedules for physical and socio-economic survey, stressing on any local problem or any contemporary issue.
- c) Interrelations between different aspects of the study should be the focus of the Report
- d) Text of the Report should not exceed 2,000 words and should ideally be divided into the following sections: Introduction, Statement of problem(s) and Objectives, Materials and methods, Results Discussions, Conclusion, References/ Bibliography and Appendices (if any).
- e) Maps, diagrams and sketches, excluding photographs, should not exceed 20-25 pages.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MGEOCCT 401: Contemporary Geography [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Geography and Sustainable Development Goals</b>	<b>[15]</b>
1.1	Sustainable Development: Introduction, History, Concepts, Targets, Strategies and Measurement	
1.2	Challenges for Sustainable Development: Land Management, Water Crisis, Energy Crisis, Food Security and Agriculture, Poverty and Inequality	
1.3	Sustainable Utilisation of Resources: Land, Water and Energy	
1.4	India's Commitment to SDGs, SDG India Index, State Ranking	
<b>Unit: 2</b>	<b>Environment and Climate Change</b>	<b>[15]</b>
2.1	Environmental Hazard, Disaster Risk Management, UN-SPIDER	
2.2	Biodiversity, Hotspots, Urban Bio-diversity Index, Wetland Conservation	
2.3	Environmental agreement and treaties: Paris Agreement, UN Climate Change Conference in Glasgow (COP26) and India's Commitment	
2.4	National Action Plan for Climate Change, National Green Tribunal	
<b>Unit: 3</b>	<b>Socio-Political and Governance Issues</b>	<b>[15]</b>
3.1	Gender Inequality, Poverty and Homelessness, Divided city, Safe City	
3.2	Major socio-political issues of India: Communalism, Caste Politics	
3.3	Issues of Feminist Geography, Health Geography	
3.4	Land Governance, Citizens Participation in Governance	
<b>Unit: 4</b>	<b>Contemporary Missions, Schemes and Policies</b>	<b>[15]</b>
4.1	Urban Missions: Smart Cities, AMRUT, Hriday, Housing for All (U), SBM (U)	
4.2	Rural Missions: MGNREGA, PMGSY, Rurban, GPDP, SVAMITVA Scheme	
4.3	Namami Gange Programme, Urban Poverty Alleviation Programme, Rooftop solar programme	
4.4	National Urban Transport Policy, National Urban Policy Framework, 2018	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MGEOCCT 402: Regional Geography of India [4 Credits – 60 hours]

##### **Unit: 1 Physical Geography of India [15]**

- 1.1 Broad physiographic units of India
- 1.2 Geology and Geomorphology of Himalayan region
- 1.3 Geology and physiography of peninsular and extra-peninsular India
- 1.4 Indian river system

##### **Unit: 2 Demographic & Socio-Economic Geography of India [15]**

- 2.1 Population characteristics, determinants, growth, composition and policies in India
- 2.2 Agro-climatic zones, Green revolution and food security-right in India
- 2.3 Evolution of Post-Industrial development, Industrial regions and policies in India
- 2.4 Impact of globalization and liberalization in Indian economy

##### **Unit: 3 West Bengal: Geographical Account [15]**

- 3.1 Broad physiographic units of West Bengal
- 3.2 Geology, climate and vegetation of West Bengal
- 3.3 Population growth and distribution of West Bengal
- 3.4 Mineral resources and industries in West Bengal

##### **Unit: 4 Geography of Rarh Bengal [15]**

- 4.1 Geology, physiography, drainage and forest of Rarh Bengal
- 4.2 Water scarcity and drought in Rarh Bengal
- 4.3 Demographic and socio-economic characteristics of Rarh Bengal
- 4.4 Problems, management and prospects of Rarh Bengal

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

#### **Pattern of setting questions:**

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP A MGEOMET 403: Population Geography – II [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Human Development and Empowerment</b>	<b>[15]</b>
1.1	Human Development: Concept, Dimensions and Indicators	
1.2	Level of Human Development in the states of India	
1.3	Gender Development Index (GDI), Gender issues and gender empowerment measures	
1.4	Regional differences of gender inequality in India	
<b>Unit: 2</b>	<b>Social Inequality and Deprivation</b>	<b>[15]</b>
2.1	Factor responsible for uneven growth and development	
2.2	Social inequality in India	
2.3	Different concept and measures of poverty, poverty line, MPI and poverty alleviation policies and programmes	
2.4	Deprivation of Backward and minority communities	
<b>Unit: 3</b>	<b>Health and Wellbeing</b>	<b>[15]</b>
3.1	Concept and factors influencing human health and wellbeing	
3.2	Driving forces of health in relation to population dynamics, urbanisation, poverty, malnutrition and inequality	
3.3	Indicators of Quality of Life and Social Wellbeing in relation to India	
3.4	Maternal and child Health care: ANC, Delivery care, PNC, Low Birth Weight and Preterm Birth	
<b>Unit: 4</b>	<b>Population Policies</b>	<b>[15]</b>
4.1	International & intra-national population policies of migration	
4.2	Population policies during post- independence period in India	
4.3	Policies for child labour, unemployed youth and Ageing in India	
4.4	UNO's world population policies	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP B

#### MGEOMET 403: Advanced Geomorphology – II [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Applied Geomorphology</b>	<b>[15]</b>
1.1	Concepts and chronological development of applied geomorphology (with special reference to geospatial technology)	
1.2	Application of geomorphic knowledge and techniques for floodplain sustainable landscape planning	
1.3	Application of geomorphology in terrain evaluation	
1.4	Application of geomorphic knowledge and techniques for engineering works	
<b>Unit: 2</b>	<b>Contemporary Issues in Geomorphology</b>	<b>[15]</b>
2.1	Climate change and Ganga delta	
2.2	Climate change and Himalayan glaciers	
2.3	Urban Geomorphology: Issues and challenges	
2.4	Concept of Geomorphosites and Geoheritage	
<b>Unit: 3</b>	<b>Management of Geomorphic Issues</b>	<b>[15]</b>
3.1	Management of Mining Subsidence with special reference to Coal Belts of Raniganj and Darjeeling Hills	
3.2	Management of River Discharge and its effect with special reference to Damodar Valley Corporation and Farakka Barrage project	
3.3	Management of Urban water supply and Disposal with special reference to Kolkata Municipal Development Area	
3.4	Management of Reclaimed Coastal areas with special reference to Indian Sundarban	
<b>Unit: 4</b>	<b>Management of Geomorphic Hazards</b>	<b>[15]</b>
4.1	Management of Landslides with special reference to Northern West Bengal	
4.2	Management of Floods with special reference to West Bengal	
4.3	Management of Riverbank Erosion with special reference to West Bengal	
4.4	Management of coastal Erosion of West Bengal Coast	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP C

#### MGEOMET 403: Regional Planning & Urban Geography – II [4 Credits – 60 hours]

<b>Unit: 1</b>	<b>Regional Planning &amp; Regional Analysis</b>	<b>[15]</b>
1.1	Approaches to regional studies: ecological, economic and socio-cultural	
1.2	State, District and Block Level Planning in India	
1.3	Impact of New Economic Policies on regional inequality in India: Location of new regional economic activities	
1.4	Techniques in regional analysis: Regional Multiplier; Input-output, export-based model, Relative Income Potential Model	
<b>Unit: 2</b>	<b>Planning for Sustainable Cities</b>	<b>[15]</b>
2.1	Types of Urban Plans in India: Master Plan/Development Plan, Transportation Plan; Strategic Plan; City Development Plan, Local Area Plan	
2.2	Land management for planning: Land Acquisition and Land Pooling Model, TDR, FSI, FAR	
2.3	Sustainable neighbourhoods, healthy urban communities; walkability	
2.4	Cities' Future: New Town, Smart Growth, Green City and Urban Agriculture, Resilient City	
<b>Unit: 3</b>	<b>Urbanization and Urban Development</b>	<b>[15]</b>
3.1	Cities in the Global South: Issues	
3.2	Recent Theoretical Development: Ordinary City (Robinson), Planetary Urbanization (Brenner) and Informal Urbanization (Roy)	
3.3	Cities and social justice in India: The relevance of slums in Indian cities; Slum development Eviction of Squatter Settlements and Resettlement Debate in India.	
3.4	Environment and Urbanization, Compact city, Urban Livability Index	
<b>Unit: 4</b>	<b>Metropolitan Planning and Development: India and West Bengal</b>	<b>[15]</b>
4.1	Metropolitan region: Concept of city region and delineation techniques, Case Study of NCR	
4.2	Metropolitan problems and issues: environment, transport, land, water	
4.3	Mega cities in India, peri urbanization, metropolitan decentralization, sprawl	
4.4	Metropolitan Planning in West Bengal: Kolkata, Asansol, Siliguri; metropolitan governance	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 questions (with division) with 10 marks, taking one (1) from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP A MGEOMES 405: Population Geography [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Measures of Spatio-Temporal Changes</b>	<b>[15]</b>
1.1	Growth rate of population: Absolute, Decadal, Compound and Exponential growth rate	
1.2	Spatial distribution of population density by different method	
1.3	Sex ratio, Literacy rate, Age-sex pyramid	
1.4	Population Projection	
<b>Unit: 2</b>	<b>Measures of Development</b>	<b>[15]</b>
2.1	Terms and application: Rates, Ratios, Proportion, Incidence and Prevalence	
2.2	Techniques of Lorenz curve & Gini-coefficient, PQLI, HDI, GDI and HPI	
2.3	Concept and measures of GNP, GDP and SDP	
2.4	Construction of Life Tables based on ADSR	
<b>Unit: 3</b>	<b>Quantitative Techniques</b>	<b>[15]</b>
3.1	WFPR, LFPR; different type of measures of economic activities	
3.2	Degree and tempo of Urbanization	
3.3	Migration measures: Direct and Indirect estimation	
3.4	Measurement of regional disparities: Composite score, Rank-correlation	
<b>Unit: 4</b>	<b>Software Application</b>	<b>[15]</b>
4.1	General introduction of various types of software in population geography	
4.2	Application of SPSS in population field	
4.3	Application of STATA in population field	
4.4	Application of QGIS in population	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

Number in parenthesis indicating the class hours

**Pattern of setting questions:**

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP B

#### MGEOMES 405: Advanced Geomorphology [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Analysis of Channel Planforms and Sediments</b>	<b>[15]</b>
1.1	Computation of Braiding index, Sinuosity index, Meander wavelength and Radius of curvature	
1.2	Computation of River profile – Longitudinal, Transverse Profiles and Stream gradient index	
1.3	Collection and analysis of Coastal or Riverine Sediment using $\emptyset$ - graded sieves and chemicals Electronic balance	
1.4	Analysis of Pebble-grade Fluvial and Coastal sediment for shape, size and materials	
<b>Unit: 2</b>	<b>Measurements of Fluvial Parameters</b>	<b>[15]</b>
2.1	Preparation of Hydrograph, Unit Hydrograph and Rating Curve	
2.2	Measurement of discharge by Current Meter (to be carried out in the field)	
2.3	Analysis of River bank sedimentological facies	
2.4	Assessment of Channel Bar Morphology	
<b>Unit: 3</b>	<b>Preparation of Geomorphic Map</b>	<b>[15]</b>
3.1	Generation of DEM using contours and spot height of a drainage basin; downloading SRTM and ALOS-PALSAR data, and sub setting DEM of a given drainage basin	
3.2	Preparation of geomorphic maps: Analog and Digital	
3.3	Preparation of floodplain geomorphological map	
3.4	Mapping of Glacial and Peri-glacial Landscape	
<b>Unit: 4</b>	<b>Hazard Mapping and Zonation</b>	<b>[15]</b>
4.1	Landslide: sites and Vulnerability zones	
4.2	Floods: inundation and Risk zone	
4.3	Riverbank erosion: quantification of Eroded area and Vulnerability zonation	
4.4	Coastal erosion: quantification of Eroded area and Vulnerability Zonation	

Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)

Number in parenthesis indicating the class hours

#### Pattern of setting questions:

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.





## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MAJOR ELECTIVE – GROUP C

#### MGEOMES 405: Regional Planning & Urban Geography [4 Credits – 120 hours]

<b>Unit: 1</b>	<b>Urban Planning</b>	<b>[15]</b>
1.1	Measurement of Inequality by Lorenz Curve, Concentration by Location Quotient	
1.2	Rank-Size Rule, Size-Class Distribution of Urban Centres	
1.3	Quality of Life Index for Urban Slums	
1.4	Urban Database Creation at the scale of 1:4000 as per Design & Standard	
<b>Unit: 2</b>	<b>Rural Planning</b>	<b>[15]</b>
2.1	Nearest Neighbour Mapping, Spatial Gradient Analysis	
2.2	Measurement and Analysis of Spatial Interaction	
2.3	Assessment of Infrastructural growth and Regional development	
2.4	Livelihood Security Index (using Natural, Physical, Human, Social & Economic Capitals)	
<b>Unit: 3</b>	<b>Transport System &amp; Regional Planning</b>	<b>[15]</b>
3.1	Network Analysis (Cyclomatic Number, Alpha, Beta, Gamma and Eta Indices)	
3.2	Direct Connectivity Matrix and Mapping, Centrality Mapping (KÖnig Number)	
3.3	Accessibility by Detour Index, Measurement of Transport Accessibility by Shortest Path Matrix	
3.4	Assessing Sphere of influence of Urban Centres	
<b>Unit: 4</b>	<b>Application Of Geoinformatics in Regional Development</b>	<b>[15]</b>
4.1	Mapping of Urban Sprawling, Peri-Urban Landscape Change	
4.2	Hierarchy of Settlement and Development Perspectives	
4.3	Urban Sustainability Analysis (Using NITI Aayog approach)	
4.4	City Planning Interactive Mapping	

**Full Marks- 50 (End term Examination- 40 and Internal Assessment- 10)**

**Number in parenthesis indicating the class hours**

**Pattern of setting questions:**

Candidate has to answer 4 Compulsory questions (with at least 2 divisions in question) with 7.5 marks, from each unit.



## Sidho-Kanho-Birsha University – Geography Postgraduate Syllabus

### Semester – IV (January to June)

#### MGEOMES 406: Dissertation [4 Credits – 120 hours]

**Post Graduate Dissertation on Respective Special Paper** will be a comprehensive work based on conceptual aspects, field work analysis of primary and secondary data.

It should mention the objectives, sources of information, methods and approaches.

Interrelations between different aspects of the study should be the focus of the dissertation.

Text of the dissertation should not exceed 7,000 – 8,000 words and should ideally be divided into the following sections:

- 1) Introduction
  - 2) Statement of problem(s)
  - 3) Review of Literature
  - 4) Objectives
  - 5) Materials and Methods
  - 6) Results
  - 7) Discussions
  - 8) Conclusions
- References / Bibliography  
Acknowledgement (if any)  
Appendices (if any)

#### **Guidelines for execution Dissertation:**

- ❖ The Dissertation must be forwarded by the Respective Supervisor and HoD within stipulated time.
- ❖ The work is to be based mainly on processing of primary data collected from field with the help of appropriate schedules or from Secondary Sources for physical and socio-economic aspect on any local problem or any contemporary issue.
- ❖ Interrelations between different aspects of the study should be the focus of the Report.
- ❖ Maps, diagrams and sketches, excluding photographs, should not exceed 45-50 pages of A4 size paper.
- ❖ Computer type dissertation duly endorsed by the Supervisor(s) is to be produced by the students.
- ❖ If any Candidate wishes to publish his/ her Dissertation fully or partially, prior permission must be taken from respective Supervisor as it falls under '*Intellectual Property Rights*' of the University, i.e. Sidho-Kanho-Birsha University.