



# UNIVERSITY OF GOUR BANGA



Established under the West Bengal Act XXVI of 2007  
[Recognized U/S 2(f) & 12(B) of the UGC Act and NAAC accredited University with 'B' Grade (2016)]

## DEPARTMENT OF GEOGRAPHY

**P.O.: Mokdumpur, District: Malda, West Bengal, PIN- 732103**

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### SYLLABUS FOR M. Phil/Ph. D. ENTRANCE TEST IN GEOGRAPHY-2021 UNIVERSITY OF GOUR BANGA

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#### **(A) RESEARCH METHODOLOGY IN GEOGRAPHY**

##### **UNIT-1: CONCEPTUAL FRAMEWORK OF RESEARCH**

Definition, objectives, motivation of research, research methods and methodology, Types, approaches, significance, research process in India, Criteria of good research and associated problems and changing paradigm in the research methodology.

##### **UNIT-2: RESEARCH DESIGN**

Meaning of research design, need, features of good research design, Statement of problems, necessity of defining the problems, techniques of defining problems, sampling techniques  
Field survey techniques (questionnaire schedule, site selection, field photography).

##### **UNIT-3: LITERATURE SURVEY AND CITATION**

Concepts and approaches of literature survey, Sources of literatures, quality assessment, reliability, Cross referencing, modality for different branches and needs of cross referencing, Referencing and Bibliography, their styles and needs in research

##### **UNIT -4: DATA BASE AND DATA PROCESSING**

Nature of data base - qualitative and quantitative, Data format/data matrix, scaling of data, Sources of data and their characteristics and Processing of data

##### **UNIT-5: FUNDAMENTALS OF COMPUTER APPLICATION**

M.S Word, M.S. Excel (Statistical calculation and graphical representation) and M.S. Power point.

##### **UNIT-6: TECHNIQUES OF DATA ANALYSIS IN PHYSICAL GEOGRAPHY**

Geomorphological Data Analysis, Hydrological Data Analysis, Climatic Data Analysis, Soil and Water Testing

##### **UNIT-7: TECHNIQUES OF DATA ANALYSIS IN HUMAN GEOGRAPHY**

Demographic Data Analysis, Analysis of Human Settlement, Analysis of Well-Being and Deprivation and Economic Data Analysis

##### **UNIT-8: HYPOTHESIS TESTING**

Test of Hypothesis: Types, Level of Significance and Confidence, One Tailed & Two Tailed Tests, Type One and Type Two Error, T-Test and Chi-Square Test.

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**(B) GEOGRAPHY**

**UNIT-1: GEOTECTONIC**

Spatio-temporal Scaling: Geological Time Scale (using fossil and nuclear clocks); Concept of Spatial and Temporal Scales, Earth's Crust and the Interior of the Earth: Seismological Evidences, Earth Movements: Orogenic and Epeirogenic Forces, Tectonics and Neo Tectonics: Plate Tectonics and Sea floor Spreading

**UNIT-2: FUNDAMENTAL CONCEPTS IN GEOMORPHOLOGY**

Concepts: Fundamental Concepts in Geomorphology, Grade: Concept of Grade, Profile of Equilibrium and Base Level, Evolution of Topography: Cyclic and Non Cyclic, Climatic Geomorphology: Morphoclimatic Regions and Morphoclimatic Equilibrium

**UNIT-3: CLIMATOLOGY**

Composition and Structure: Physical and Chemical Composition and the Internal Structure, Spatial Distribution of Rainfall and Special Events: Types of Rainfall over Geographical Space, Rainfall Variability, Cloud Burst and Artificial Rainfall, Monsoon System: Theories, Impact of El-Nino, Jet Stream, Walker Cell, Hadley Cell; Changing Monsoonal Rainfall and its impact, Human Activities and Monsoon and Air mass: Concept, Classification, Dynamism and Modification, Classification of World Climate: Thornthwaite and Koppen.

**UNIT-4: RESOURCE STUDY AND ITS MANAGEMENT**

Concept of Resources, Approaches and Classifications, Land Resource: Land use and Land cover, Soil Fertility, Land Capability & Productivity; Economic Rent and Von Thunen's Theory, Water Resources: Surface and Subsurface, Water Demand, Supply, Exploitation, Forest Resources: Distribution, Development and Degradation, Forest Policies in India, Right to Forest.

**UNIT-5: PHILOSOPHY OF GEOGRAPHY AND GEOPOLITICAL ISSUES**

Evolution of Geography: Ancient, Medieval, Modern and Post Modern Periods, Welfare Geography: Geography of Space and Place, Geography of Inequality and Social Justice  
Geopolitical Issues: Definition, Geopolitical Codes, Concept of Core and Periphery, Frontiers and Boundaries, Buffer Zones and Buffer States, Border Disputes: Enclave and Exclaves, Border Infiltration, International and Interstate Water Disputes.

**UNIT-6: SOCIAL AND CULTURAL GEOGRAPHY**

Social Geography: Definition, Evolution and Approaches, Social Process: Industrialization, Migration, Urbanization, Modernization, Cultural Globalization and Sanskritization, Cultural Process: Cultural Assimilation, Integration and Acculturation; Cultural Segregation and Cultural

Regeneration, Caste System in India, Tribal Communities, Constitution and Social Change and Implications of Five Years Plans in India.

#### **UNIT-7: SOIL AND BIOGEOGRAPHY**

Soil Formation: Factors and Processes, Soil Profiles: Nature and Development, Physical Properties: Soil Texture, Structure, Consistence, Color, Temperature, Soil Moisture, Porosity and Permeability, Chemical and Organic Properties: Soil PH, Soil Organic Matter and Humus, Soil Nutrients, CEC, EC and Base Exchange.

Ecosystem: Structure, Functions and Scaling of Ecosystem; Simple and Complex Ecosystem and Transitional Ecosystem, Issues in Biodiversity: Biodiversity Zones, Biodiversity Hotspots, Biodiversity Depletion, Importance and Conservation of Biodiversity.

#### **UNIT-8: POPULATION AND SETTLEMENT GEOGRAPHY**

Vital Statistics: Fertility, Morbidity, Mortality, Growth Rate, Sex Ratio (Primary, Secondary & Tertiary); Concept of Stationary & Stable Population; Population Growth in Developed & Developing Countries; Population Theories, Population Problems and Policies in India.

Rural Settlements: Bases of Classification, Pattern, Hierarchy, Theories of Evolution of Rural Settlements, Rural-Urban Continuum, Segregation with Special Reference to India, Urbanization, Urban Hierarchy and Urban Morphology.

#### **UNIT-9: REGIONAL PLANNING AND DEVELOPMENT**

Concept of Region and Regionalization, Spatial Organization: Central Place Theory, Concept of Core and Periphery, Friedmann's Model of Spatial Organisation and Economic Growth Theories of Regional Development and Under-Development: Myrdal and Hirschman, Economic and Export Base Model, Big Push Theory, Frank's Theory of Underdevelopment, Regional Planning in India: Indicators of Regional Development and Regional Imbalances, Multi Level Planning and Planning Regions.

#### **UNIT-10: CARTOGRAPHY AND STATISTICAL METHODS:**

Data sources and types of data; Frequency distribution and cumulative frequency; Measures of Central Tendency: Arithmetic Mean, Geometric Mean, Harmonic Mean, Median and Mode; Measures of Dispersions: Absolute and Relative Measures; Data Distribution Pattern: Partition Values, Skewness, Kurtosis and Moment; Lorenz Curve; Methods of measuring association among different attributes; simple and Multiple correlation; Regression. Nearest-Neighbour Analysis (NNA); Sampling techniques for Geographical analysis. Remote Sensing and Geographic Information System (GIS).