

Murshidabad University



Address: -1, Sahid Surjyasen Road, Gora-Bazar, Berhampore, Murshidabad, West Bengal 742101

Website: murshidabaduniversity.ac.in

No – MU (R)/ 174/2021-2022

Date:13/09/2021

NOTIFICATION

It is notified for information of all concerned that Murshidabad University in its meeting, held on 09/09/2021 approved the ad-hoc syllabus, M.A/M.Sc. course of study in Geography under CBCS in the Postgraduate dept. of the University.

The above shall be effective from academic session 2021-2022

POST GRADUATE SYLLABUS IN GEOGRAPHY
CHOICE BASED CREDIT SYSTEM (CBCS)
(EFFECTIVE FROM THE ACADEMIC SESSION 2021-2022)



DEPARTMENT OF GEOGRAPHY
MURSHIDABAD UNIVERSITY
BERHAMPORE-742101
WEST BENGAL
INDIA

SYLLABUS STRUCTURE

Semester	Module	Type	Module Name	Marks	Credits
I	PG-GEO-CCT-101	Theory	Geotectonic and Geomorphology	50	4
	PG-GEO-CCT-102	Theory	Climatology	50	4
	PG-GEO-CCT-103	Theory	Economic Geography	50	4
	PG-GEO-CCT-104	Theory	Social and Cultural Geography	50	4
	PG-GEO-CCP-101	Practical	Interpretation of Topographical Maps, Aerial Photographs and Satellite Imageries	50	4
II	PG-GEO-CCT-205	Theory	Hydrology and Oceanography	50	4
	PG-GEO-CCT-206	Theory	Soil and Bio Geography	50	4
	PG-GEO-CCT-207	Theory	Philosophy of Geography	50	4
	PG-GEO-CCP-202	Practical	Statistical Techniques and Computer Application	50	4
	PG-GEO-CCP-203	Practical	Quantitative and Field Techniques	50	4

Notes: PG – Post Graduation; GEO – Geography; CC – Core Course; T - Theory; P- Practical

- **FOR EACH THEORETICAL MODULE NO. OF CLASS ALLOCATION IS 50 LECTURE HOURS AND FOR PRACTICAL 75 LECTURE HOURS**

CONTENTS OF SYLLABUS IN DETAILS

SEMESTER-1

PG-GEO-CCT-101: GEOTECTONICS & GEOMORPHOLOGY (Theoretical – 50 marks / 4 credits)

UNIT-I: Concepts in Earth Science

- 1.1: Spatial scale, temporal scale and related concepts. Systems, feedback, equilibrium and threshold. Concept of uniformitarianism.
- 1.2: Geological time-scale and major events of earth history. Principles of relative and absolute dating.
- 1.3 Principles of measuring landforms and monitoring the evolution. Significance of process studies.
- 1.4: Plate tectonic as a unified theory of global tectonics.

UNIT – II: Rivers and River Basins

- 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.
- 2.3: Adjustment of channel forms and patterns to morphodynamic variables.
- 2.4: Fluvial landforms (Terraces, Alluvial fans and Floodplains): Genetic classification, ordering, formation and evolution.

UNIT – III: Evolution of Landforms

- 3.1: Concept of morphogenetic Region and landforms.
- 3.2: Classification and evolution of Periglacial landforms.
- 3.3: Coastal morphodynamic variables and their influence on evolution of coastal forms.
- 3.4: Models of slope evolution: Ideas of Davis, Penck and King.

UNIT – IV: Applied Geomorphology

- 4.1 : Concept of Anthropogeomorphology. Geomorphic approach to hazard studies.
- 4.2 : Factors, vulnerability, consequences and management of earthquakes, tsunamis and landslides.
- 4.3 : Factors, vulnerability, consequences and management of Arsenic contamination of ground water.
- 4.4 : Flood, River bank erosion and integrated river bank management.

Suggested Readings:

1. Bloom, A. L., 2001: Geomorphology: A Systematic Analysis of Late Cenozoic Landforms
2. Prentice-Hall of India, New Delhi Bridges, E. M., 1990: World Geomorphology, Cambridge University Press, Cambridge
3. Christopherson, R. W., 2011: Geosystems: An Introduction to Physical Geography, 8 Ed., Macmillan Publishing Company
4. Kale, V. S., and Gupta, A., 2001: Introduction to Geomorphology, Orient Longman, Hyderabad
5. Knighton, A. D., 1984: Fluvial Forms and Processes, Edward Arnold Publishers, London
6. Selby, M. J., 2005: Earth's Changing Surface, Indian Edition, OUP
7. Singh, S. 1998: Geomorphology, Prayag Pustak, Allahabad
8. Skinner, B. J., and Stephen, C. P., 2000: The Dynamic Earth: An Introduction to physical Geology, 4th Edition, John Wiley and Sons
10. Thornbury, W. D., 1969: Principles of Geomorphology, Wiley

PG-GEO-CCT-102: CLIMATOLOGY (Theoretical – 50 marks / 4 credits)

UNIT-I: Atmosphere, Heat and Water Budget

1.1: Climatology and its relation to Meteorology; Concept of Macro, Meso and Micro-climate.

1.2: Origin and Nature of Atmosphere; the role of Oxygen, Carbon-dioxide and Ozone.

1.3: Heat budget of the Earth; Heat Island, Coriolis force and other forces controlling Wind motion, Pressure gradient, friction, convergence and divergence.

1.4: Water budget; Global and Regional Water Balance.

UNIT-II: Precipitation formation and Monsoon mechanism

2.1: The role of water vapour in the atmosphere; Evaporation and Condensation by Adiabatic and Diabatic Processes.

2.2: Theories of rain-drop formation.

2.3: Monsoon Variability in relation to IOD (Indian Ocean Dipole).

2.4: MONEX and Numerical Model of Monsoon.

UNIT-III: Weather disturbances and Forecasting

3.1: Source regions and characteristics of Air mass; Front genesis.

3.2: Extreme weather events: Thunder storm, Heat waves, Cold Waves, Drought and Cyclones.

3.3: ENSO phenomena: mechanism and impact.

3.4: Techniques of Weather forecasting: short, medium and long range.

UNIT-IV: Climatic Classification and Applied issues

4.1: Classification of World climate: Oliver and Trewartha.

4.2: Bio-climatic regions of the World; Agro-climatology.

4.3: Global warming and Climate change: Causes and consequences.

4.4: Climatic Hazards, mitigation and adaptive measures.

Suggested Readings:

1. Barry, R. G., and Carleton, A. M., 2001: Synoptic and Dynamic Climatology, Routledge, UK
2. Barry, R. G., and Chorley, R. J., 1998: Atmosphere, Weather and Climate, Routledge, New York
3. Critchfield, H. J., 1987: General Climatology, Prentice-Hall of India, New Delhi
4. Lal, D. S., 1993: Climatology, 3rd edition, Chaitanya Pub. House, New Delhi
5. Lutgens, F. K., Tarbuck, E. J., and Tasa D., 2009: The Atmosphere: An Introduction to Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey
6. Oliver, J. E., and Hidore, J. J., 2002: Climatology: An Atmospheric Science, Pearson Education, New Delhi
7. Singh, S., 2013: Climatology, Prayag Pustak Bhawan, Allahabad
8. Trewartha, G. T., and Horne L. H., 1980: An Introduction to Climate, McGraw

PG-GEO-CCT-103: ECONOMIC GEOGRAPHY (Theoretical – 50 marks / 4 credits)

UNIT-I: Concept of Resources and Economics

- 1.1: Concept of Resource, Resistance and Neutral stuff. Resource creating factors: Nature, Man and Culture. Resource adequacy and concept of scarcity.
- 1.2: Conservation and Management of Land-Water-Biotic Resources; Human Resources.

1.3: Energy Resources: Renewable and Non-renewable; Conservation and Development.

1.4: Ranking of world economies. Resource classification: Ackerman's scheme.

UNIT-II: Agricultural Economy

2.1: Agricultural Regions: Concepts and Techniques of Delineation.

2.2: Role of Technical Changes in Agricultural Productivity and Efficiency: Green and White Revolution – Success and Failures in India.

2.3: Concept of Urban, Peri-urban Agriculture and Blue revolution.

2.4: Agriculture in India: Land-reforms, nutrition and diversification of crops.

UNIT-III: Industrial Economy

3.1: Classification of Industries; Theories of Industrial Location: Losch, Smith, Hoover.

3.2: Major industrial regions. Spatial distribution of manufacturing industries: Petroleum refining and Textile with special reference to India.

3.3: Industrial Policy, Role of Liberalization, Privatization and Globalization.

3.4: Emerging Industries with special reference to IT Sector.

UNIT-IV: Transport, Trade and Commerce

4.1: Concept of Distance, Connectivity and Accessibility; Intra-regional and Inter-regional.

4.2: Models of Transportation and Transport costs; Comparative cost advantages.

4.3: International and Interregional Trade, Role of International Agreements & Organizations- GATT, WTO, World Bank.

4.4: Concept of E-Commerce, Concept of Export Processing Zone and Special Economic Zone.

Suggested Readings:

1. Alexander J. W. (1963): Economic Geography, Prentice-Hall Inc., Englewood Cliffs, New Jersey. Bagchi-Sen S. and Smith H. L. (2006): Economic Geography: Past, Present and Future
2. Taylor and Francis. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. (2000): The Oxford
3. Coe N. M., Kelly P. F. and Yeung H. W. (2007): Economic Geography: A Contemporary
4. Introduction, Wiley-Blackwell. Combes P., Mayer T. and Thisse J. F. (2008): Economic Geography: The Integration of
5. Regions and Nations, Princeton University Press. Durand L. (1961): Economic Geography, Crowell.
6. Hodder B. W. and Lee Roger (1974): Economic Geography, Taylor and Francis.
7. Wheeler J. O. (1998): Economic Geography, Wiley.
8. Willington D. E. (2008): Economic Geography, Husband Press.

PG-GEO-CCT-104: SOCIAL & CULTURAL GEOGRAPHY **(Theoretical – 50 marks / 4 credits)**

UNIT-I: Concepts in Social Geography

- 1.1 : Social Geography: Definition, Evolution, Nature of Social Geography and Approaches
- 1.2 : Concepts of Social structure, social processes and social patterns; Significance of models in Social geography.
- 1.3 : Concept of Welfare and Social Well-being; Social Well-being in India, Social pathology.
- 1.4: Concept of social inequality, Social conflict and peace, social security, social justice and social planning

UNIT – II: Elements of Social Geography

2.1: Space in Social Geography: material and social space

2.2: Social Structure in India: Economic and Ethnic-Caste and Tribe.

2.3: Geography of Religion: The World and India

2.4: Geography of language: Classification and spatial distribution of language in world and in India.

UNIT – III: Concepts in Cultural Geography

3.1: Definition, nature and evolution of Cultural Geography.

3.2: Origin of culture: Concepts of cultural hearth and cultural realm.

3.3: Cultural System and Diffusion.

3.4: Cultural Segregation, Cultural Diversity and Cultural Regeneration.

UNIT – IV: Social – Cultural Relations

4.1: Three fold Divisions of Societies.

4.2: Socio-Cultural Transformation; Culture and Environment.

4.3: Cultural landscape after Carl O’Sauer, Cultural area and Cultural region. Formation of Cultural Regions in India.

4.4: Acculturation, Metropolitan Culture and Cultural Transformation and Globalization.

Suggested Readings:

1. Ahmad, A.: Social Structure and Regional Development, Rawat Pub. Co., New Delhi, 1993.

2. Ahmad, Aijazuddin : Social Geography, Rawat Publications, New Delhi, 1999.

3. Bhattacharya, D.C.: Sociology, Vijaya Publishing House, Kolkata, 7th edition, 2002.
4. Bhowmick, Prabodh Kumar Ed :Tribal people of India : Societyculture and development (R N, Bhattacharya Kolkata, 2008), (DELNET)
5. Bhupinder Singh and Mahanti, Neeti, Tribal policy in India.(Inter- India Publication, New Delhi, 1997) (NHRC)
6. Blunden, J., Haggett, P., Harnnett, C. and Sarre, P. (1985): The Fundamentals of Human Geography, Harper and Row, New York.
7. Carter, J. And Jones, T. 1989 : Social Geography: An Introduction to Contemporary Issues, Edward Arnold, London.
8. Choudhary, R N and Naqvi :Commentary on the scheduledcastes and scheduled tribes act, 1989. (Orient Publication, New Delhi, 2007) (DELNET)
9. Danda, Ajit K.: Ethnicity in India, Inter-India Publications,
10. De Blij H.J. 1995 : The Earth: An Introduction to its Physical and Human Geography, John Wiley and Sons Inc., New York.
11. Dreze Jean, Amartya Sen, Economic Development and Social opportunity, Oxford University Press, New Delhi, 1996.
12. Dubey, S.C.: Indian Society, National Book Trust, New Delhi, 1991.
13. Jones, Emrys and John Eyles : An Introduction to Social Geography, Oxford University Press, London, 1977.
14. Gupta, Ramnika: Tribal Contemporary Issues: Appraisal and Intervention, Concept Publishing Company, 2007.
15. Khare, R.S. : Cultural Diversity and Social Discontent, Sage India, New Delhi, 1998.
16. Mandelbaum, David G. : Society in India, University of California Press, Berkley, 1970.
17. Massey, James Ed :Indigenous people: Dalits issues in today'stheological debate (ISPCK, Delhi, 1994) (DELNET)
18. Meena, Radhakrishna :Dishonoured by history : Criminal tribes &British colonial policy. (Orient Longman, New Delhi, 2001) (NHRC)
19. Mehta, Parkash :Tribal rights. (Shiva Publishers Distributors,Udaipur, 1996) (NHRC)
20. Parvthamma, C : Scheduled Castes and Tribes. (New Delhi,1984) (DELNET)

21. Rao C,N. Shankar: Sociology, S Chand and Company Limited, New Delhi, 2005.
22. Rao, M.S.A.: Urbanisation and Social Change, Orient Longmans, New Delhi, 1970.
23. Rao, Vijendra K R V :Scheduled Castes and Tribes. (New Delhi,1984) (DELNET)
24. Sareen, T.R. and S.R. (ed.) : Castes and Tribes of India, Anmol, New Delhi, 1993.
25. Raza, Moonis and Ahmad, Aijazuddin :Atlas of tribal India : Withcomputed tables of district- level data and its geographical.
26. Russell, R V :Tribes and Castes of the Central Provinces of India.(Delhi, 1975) (DELNET)
27. Russell, R.V :Tribes and Castes of the Central Provinces of India,(London, 1916)
28. Sarkar, H S :Safeguards for Scheduled Castes and Tribes (NewDelhi, 1981) (DELNET)
29. Schwartzberg Joseph; An Historical Atlas of South Asia, University of Chicago Press,
30. Sen, Amartya and Drze Jean, Indian Development: Selected Regional Perspectives, Oxford University Press, 1996.
31. Sen, Jyotirmoy (2007): A Text Book of Social and Cultural Geography, Kalyani Publishers
32. Singer, Milton and B.S. Cohn (ed.): Structure and Change in Indian Society, Aldine, Chicago, 1968.
33. Singh, K.S.: Tribal Situation in India, Indian Institute of Advanced Studies, Shimla, 1972.
34. Singh, K S :Scheduled Tribes : People of India.
35. Singh, K.S :Jawaharlal Nehru : Tribes and tribes and tribal policy.(Anthropological Survey of India, Calcutta, 1989) (DELNET)
36. Smith, David: Geography: A Welfare Approach, Edward Arnold, London, 1977
37. Sopher, David E.: An Exploration of India, Longman, London, 1980.
38. Srinivas, M.N.: Social Change in Modern India, Orient Longman, 1966.
39. Srinivas, M.N. (ed.): Caste: Its Twentieth Century Avatar, Penguin India, New Delhi, 1997.
40. Upadhyay, H C :Reservation for Scheduled Castes andScheduled Tribes (Anmol Publications, New Delhi, 1991) (SCJL)
41. Vidyarthi L.P and Rai B.K.: The Tribal Culture of India, The Concept Company, New Delhi, 1985

PG-GEO-CCP-101: Interpretation of Topographical Map, Aerial Photograph and Satellite Imagery (Practical – 50 marks /4 credits)

UNIT-I: Interpretation of Topo-sheet

- 1.1: Referencing scheme of Survey of India Topographical Maps of different scales. Extraction of Thematic information from Topographical Map.
- 1.2: Comparative assessment of Topographical maps, Aerial photos and Satellite images in representation of geographical data.
- 1.3: Preparation of altimetric frequency curves and hypsometric curves of drainage basins.
- 1.4: Extraction of radii of curvature and sinuosity and braiding indices of channels.

UNIT – II: Interpretation of Aerial Photograph

- 3.1: Geometry of Aerial photographs and determination of scale. Principles of ortho- rectification and mosaicking.
- 3.2: Delineation of overlapping area and effective area. Techniques of physical and cultural feature identification from Aerial photographs.
- 3.3: Preparation of thematic overlays from Aerial photo pairs and their interpretation.
- 3.4: Determination of height from stereo-pairs using parallax bar.

UNIT – III: Interpretations of Satellite Images

- 2.1: Fundamental principles and stages in Remote Sensing. Principles of preparing FCCs and classified images.

2.2: Common types of IRS and Landsat sensors and their suitability for analysis of geographical information. Indian referencing scheme of IRS sensors.

2.3: Extraction of Physical and Cultural features from satellite images of various resolution and band combinations.

2.4: Detection of change from multidated maps and/or images (including images captured from web based earth observation Programmes).

UNIT-IV: Laboratory Notebook and Viva Voce.

Suggested Readings:

1. Command of the Defence Council: Textbook of Topographic Surveying, Ministry of Defence, London, Fourth Edition, 1965
2. Cromley, Robert G., 1997: Digital Cartography, Prentice Hall, Englewood Cliffs, New Jersey, First Edition
3. Ebdon, David: Statistics in Geography: A Practical Approach, Basil Blackwell Publisher, Oxford, England, 1983
4. Frank, Harry & Steven C. Althoen, 1994: Statistics: Concepts and Applications, Cambridge University Press, Cambridge, UK, Cambridge low price edition, 1997.
5. Misra, R.P.: Fundamentals of Cartography, Concept Publishing Company, New Delhi, Revised & Enlarged Edition, 1989
6. Robinson, Arthur H., Morrison, Joel L., Muehrcke, Philip C., Kimerling,
7. A. Jon and Guptill, Stephen C.: Elements of Cartography, John Wiley & Sons, Inc., N.Y., Sixth Edition, 1995
8. Raisz Erwin.: Principles of Cartography, International Student Edition, McGraw-Hill Book Co. Inc., Tokyo, Japan, First Edition 1962
9. Raisz, Erwin.: General Cartography, McGraw Hill Book Co., New York, 1938
10. Sarkar, Ashis: Practical Geography – A Systematic Approach, Orient Longman, Cal First Edition, 1991
11. Sarkar, Ashis and Roy, P., 1983: Some selected Map Projection for India – their relative efficiencies, Geographical Review of India, Kolkata, Vol. 43, No. 2

12. Singh, R. L.: Elements of Practical Geography, Kalyani Publishers, New Delhi, First Ed., 1979

13. Stout, K.J. and Blunt, L., 1994: Three-Dimensional Surface Topography, Penton Press, London, First Edition