

MODEL QUESTIONS

SEMESTER- V



DEPARTMENT OF GEOGRAPHY

**HIRALAL MAZUMDAR MEMORIAL COLLEGE
FOR WOMEN**

DAKSHINESWAR, KOLKATA- 700 035

FIELD WORK AND RESEARCH METHODOLOGY

Paper code: GEOACOR011T

Category A: 10 marks

1. Define research. Explain the need and importance of research in social sciences.
2. What is research problem? Explain the steps in formulating the research problem.
3. What is research design? Explain the essential features of a good research design.
4. Explain the significance of secondary data. What are the limitations of secondary data? Explain the essentials of a good questionnaire.
5. Define research report. Explain the essentials of a good research report. What are the types of research reports?
6. Define hypothesis. Explain the types of hypothesis.
7. What is interview? Discuss the process of conducting interview for collecting data.
8. What is Sampling? Discuss briefly the various types of sampling methods.
9. Explain questionnaire methods of data collection. Discuss the merits and demerits of sample survey methods.
10. Bring out the limitations of research in social sciences.
11. Explain the process of research work.
12. Explain the meaning, purpose, contents, formats and qualities of a good research.
13. Define research. Discuss about the various types of research materials.
14. Discuss about the importance of field work. Explain about various tools and techniques of a field work.

Category B: 5 marks.

1. Briefly describe the types of research.
2. Explain the sources of developing hypothesis.
3. Explain the significance for research design.
4. Describe research process in flow chart.
5. Explain the objectives of research.
6. What is Research problem?
7. What do you mean by fundamental research?
8. Write a short note on – features of a good research design.
9. Explain conceptualization in research survey of literature.
10. Explain various types of Interview process.
11. What are the sources of primary data?
12. Briefly discuss the types of research.
13. Explain the sources of developing hypothesis.
14. Explain the significance of research design.
15. Write a short note on Bibliography and footnotes
16. Write a short note on Central tendency.
17. Distinguish between Qualitative and quantitative data
18. What is variables. Discuss about it types.
19. Define Quota sampling.
20. Write a short note on pre field study.
21. What is meant by research proposal?
22. Distinguish between references and Bibliography.
23. Distinguish between citation and References.
24. Briefly discuss about data processing.
25. What are the importance of research design?

Category C: 2 marks.

1. Define stratified random sampling.
2. Define bibliography.
3. What is hypothesis?
4. Define secondary data. Give some example.
5. Mention some sources of primary data.
6. What is tabulation?

7. What is purposive sampling?
8. Define Correlation Regression.
9. Define methodology.
10. What do you mean by Plagiarisms?
11. Explain about Research Ethics.
12. Define peer reviewed journal.
13. Define Impact factor.
14. What is the importance of acknowledgement in a thesis?
15. What is a literature review?
16. Define Discrete and continuous variables.
17. What do you mean by objectives of a research?
18. Define research proposal.

Disaster Management

Paper Code: GEOACOR14T

Unit I: Concepts

Category: A (10 Marks)

1. What is the meaning of disaster? Classify it under different aspects.
2. Mention the different approaches of Hazard study with a comparative discussion.
3. What is the difference between Hazard and Disaster? How can the vulnerability be assessed?
4. Mention different phases of response to hazards with suitable example.
5. Elaborate with example different techniques of mapping of different natural hazards.
6. What is hazard mapping? What are the advantages and disadvantages of hazard mapping?

Category: B (5 Marks)

1. What is the difference between natural and Quasi- natural disaster?
2. Differentiate between Hazard and Disaster.
3. Classify hazard with suitable example.
4. Correlate edaphic hazard with biotic hazard.
5. Discuss the role of Information and technology in disaster management.
6. Discuss the role of GIS in disaster management.
7. What is meant by disaster preparedness? Give example.
8. How can a researcher collect data for hazard mapping?

Category: C (2 Marks)

1. Write a short note on Man- made hazard.
2. What is Risk perception?
3. How the vulnerability of hazard be measured?
4. Write a short note on Hazard Paradigm.
5. What is the problem faced by the researcher while hazard mapping?
6. Write about the aftermaths of natural hazard.
7. Write a short note on capacity building for natural hazard.

Unit II: Hazard- specific Study with focus on India

Category: A (10 Marks)

1. What are the causes of earthquake? Mention the aftermaths caused by earthquake. How can the damages of earthquake be controlled?
2. What are the causes of landslide? Mention the aftermaths caused by landslide. How can the damages of landslide be controlled?
3. What are the causes of Tropical Cyclone? Mention the aftermaths caused by Cyclone. How can the damages of cyclone be controlled?
4. What are the causes of Riverbank erosion? Mention the aftermaths caused by riverbank erosion. How can the damages of riverbank erosion be controlled?
5. What are the causes of radioactive fallout? Mention the aftermaths caused by radioactive fallout. How can the damages of radioactive fallout be controlled?

Category: B (5 Marks)

1. Mention the different causes and consequences of earthquake.
2. What should we do to reduce damages caused by earthquake?
3. What is the significance of earthquake vulnerability zoning map?
4. Mention the different causes and consequences of landslide.
5. What should we do to reduce damages caused by landslide?
6. What is the significance of landslide vulnerability zoning map?
7. How does cyclonic storm forms? Explain your answer with suitable diagram.
8. What is the pre- hazard preparedness of cyclone?
9. Explain the aftermath of cyclone in Indian aspect.
10. How does the damages caused cyclone be controlled?
11. What is the cause behind riverbank erosion?
12. How can riverbank erosion map be done?
13. How can we mitigate riverbank erosion?
14. What is meant by radioactive fallout?
15. What types of damages can be occurred due to radioactive fallout?

Category: C (2 marks)

1. What are the earthquake prone zones in India?
2. How can we prepare earthquake map?
3. What are the factors behind landslide?
4. What is landslide zonation mapping?
5. What is the "eye of tropical cyclone"?
6. What is the significance of Cyclone Mapping?
7. What is the pre- hazard preparedness of cyclone?
8. How can we use GIS in mapping of riverbank erosion?

9. What are the physiological consequences of radioactive fallout?
10. How can we use technology in hazard mapping?

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Paper Code: GEOACOR14T

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12. What is hazard mapping? What are the advantages and disadvantages of hazard mapping?

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9. What is the difference between natural and Quasi- natural disaster?
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13. Discuss the role of Information and technology in disaster management.
14. Discuss the role of GIS in disaster management.
15. What is meant by disaster preparedness? Give example.
16. How can a researcher collect data for hazard mapping?

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12. What is the problem faced by the researcher while hazard mapping?
13. Write about the aftermaths of natural hazard.
14. Write a short note on capacity building for natural hazard.

Unit II: Hazard- specific Study with focus on India

Category: A (10 Marks)

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20. How can we use technology in hazard mapping?

SOIL AND BIO- GEOGRAPHY

PAPER CODE-GEOADSE01T

UNIT-1: Soil Geography

Topic-1: FACTORS OF SOIL FORMATION

Category A: 10 MARKS

- a) Explain with example the role of climate and flora in the development of soil profile?
- b) Explain the role of climate in soil formation giving suitable example.
- c) Explain the role of time in soil formation. Discuss the factors accelerating soil erosion

Category B: 5 MARKS

- a) Define and classify soil humus
- b) How soil profile related to time?
- c) Difference between leaching and capillary actions
- d) Define soil humus and classify
- e) Soil is dynamic body- explain.
- f) What do you understand by humification?
- g) Explain the role of capillary water on plants growth
- h) Distinguish between land and soil.
- i) Bring out the role of man in soil erosion.

Category C: 2 MARKS

- a) Define and classify soil humus?
- b) what is meant by humification
- c) define soil colloids.
- d) What is meant by illuviation?

- e) Define soil.
- f) What is gleization .
- g) Define latosols.
- h) Define porosity of soil.
- i) What is Regolith
- j) What is solonchak
- k) what is field capacity
- l) whai is clay humus complex ?
- m) How does solum differ regolith
- n) define bad land

Topic-2: SOIL PROFILE

Category A: 10 MARKS

- a) Despite immaturity of profile alluvial is normally considered to be a fertile soil- explain.
- b) Describe the processes of profile development in humid temperate region and grasslands and give reasons for their variation.
- c) " Laterite and Podzol are both pedalfers but their profile characteristics are different "
" _define
- d) distinguish between structure and texture of soil .Analyse the importance of these properties on plant growth.
- e) Explain the mechanism of soil formation under humid tropical climate.
- f) Describe an ideal soil profile in the help of suitable diagram.

Category B: 5 MARKS

- a) How is soil profile related to time.
- b) What is truncated profile and how it is formed.
- c) .Why is alluvial soil referred to as immature soil?
- d) Explain how illuviation determines the characteristics of zonal soil
- e) differentiate Lateritic soil and red soil
- f) How does illuvial and eluviation form a soil profile?
- g) What is meant by maturity of soil profile
- h) Why is laterite red in colour while chernozem is black
- i) Identify the basic characteristics of Podsol.
- j) Why does the moisture holding capacity differ in various soil types?

Category C: 2 MARKS

- a) Under what conditions hard pan form?
- b) Difference between solum and Regolith.
- c) what is clay humus complex
- d) what is rendzina soil?
- e) chernozem soil ploughs itself- define
- f) Define duricrust.
- g) Define latosols.

3. PHYSICAL PROPERTIES

Category A: 10 MARKS

- a) Describe the characteristics of different soil structure and mention the impact of structure on soil fertility.
- b) Discuss the interrelations between different physical properties.
- c) What are the basic principles of taxonomical soil classification? Make a broad taxonomy classification of India soil.

Category B: 5 MARKS

Difference between soil drainage and soil permeability.

- a) Highlight the importance of textural triangle.

Category C: 2 Marks

- a) Difference between calcic and oxic horizon
- b) Draw and explain solum and transitional layers of soil profile
- c) How is soil colour related to soil moisture.

4. CHEMICAL PROPERTIES (NPK, PH, ORGANIC MATTER)

Category A: 10 MARKS

- a) How does organic matter form in soil?

Discuss its role of soil fertility

Category B: 5 MARKS

- a) Lower the PH value of soil, greater the acidity-explain
- b) How does soil texture effects the growth of plant?
- c) What is C:N ratio?
- d) How much more acidic is ph4 than ph6?
- e) What is the significance of soil ph?
- f) Why Chernozem called an incompletely leached soil?
- g) What is meant by available NPK?
- h) Relations between soil organic matter and soil PH

Category C: 2 MARKS

- a) On what scale is ph measured?

5.SOIL ERROSION AND DEGRADATION

Category A: 10 MARKS

- a) How is the natural process of soil erosion accelerate by anthropogenic factors?
- b) Define land degradation?
- c) Give an account of soil erosion in humid and semiarid region .how can such erosion be arrested?

Category B: 5 MARKS

- a) Distinguish between the soil erosion and land degradation.
- b) Suggest measures of soil conservation in area s affected by aeolian erosion
- c) Mention the different method of soil conservation.

Category C: 2 MARKS

- a) What is gully erosion

6.SOIL CLASSIFICATION

Category A; 10 MARKS

- a) Soil classification with special reference to USDA

Category B: 5 MARKS

- a) Distinguish between Pedocals and pedalfers
- b) Distinguish between azonal and intrazonal soil.
- c) Under what environmental conditions do intrazonal soil develop?
- d) Make a genetic classification of Indian soil.

Category C: 2 MARKS

- a) Define interzonal soil with example.

UNIT-II: Bio- Geography

7. Concept of Biosphere ecosystem, Biom ecotone community – niche succession and Ecology.

Category A: 10 Marks

- a) Movement of nutrients is cyclic while movement of energy unidirectional.
- b) Explain with example the trophic level of a food chain indicating the position and role of human beings.
- c) Define biosphere. In the biosphere materials follow a circular path while flow of energy is unidirectional – Explain.
- d) Define biogeography. Critically discuss ecosystem with its energy source, energy exchange and food chain.

Category B: 5 Marks

- a) Differentiate habitat from Niche.
- b) What is ecotone?

- c) Explain nutrient budget in ecosystem.
- d) State the components of detrital food chain.
- e) How does producer differ from a decomposer?
- f) Explain in brief the second law of thermodynamics.
- g) Define ecological succession with example.
- h) What are the basic objectives of man and biosphere program?
- i) How is energy flow different from material transfer in an ecosystem?

Category C: 2 Marks

- a) In which particular biom are you located? Justify your answer.
- b) What is meant by secondary consumer?
- c) What is BOD?
- d) Define Homeostasis?
- e) Distinguish between Seral and Climax Vegetation.
- f) What is ecoclimate?
- g) What is the role of decomposer in the ecosystem?
- h) What are autotrophs in the ecosystem?
- i) What is an ecological community?
- j) What is meant by net primary productivity?
- k) What is food web?
- l) What is ammonification?
- m) What is meant by second consumer?

8. A concept of Topic Structure Food Chain, Food Web, Energy flow in Ecosystem.

Category A: 10 Marks

- a) Explain the energy flow in an eco-system is unidirectional and non-cyclic.
- b) Explain with example the nature of energy flow in ecosystem.
- c) Discuss the environmental condition of Toiga Biom. Why is the tropical rain forest rich in bio diversity?

Category B: 5 Marks

- a) Classify Ecosystem with suitable example
- b) Distinguish between ecotone and niche.
- c) Differentiate biomass pyramid and energy pyramid.

- d) Distinguish between food chain and food web.
- e) What is the principle of man and biosphere program?
- f) Explain the concept of ecosystem with reference to its components.

Category C: 2 Marks

- a) Distinguish between community and species.
- b) What is meant by net pyramid productivity?
- c) What is age effect?
- d) Define syn-ecology.
- e) What are heterotrophs?

9. Geographical extent and characteristics features of Tropical rain forest Toiga and Grassland Bioms

Category A: 10 Marks

- a) Define biom. Compare and contrast the distribution and characteristics of Toiga Biom with that of temperate grassland.
- b) Discuss characteristics of tropical rainforest biom with special reference of biodiversity.
- c) What is biom? Mention the major bioms of the world. Describe the characteristics of temperate grassland.

Category B: 5 Marks

- a) Compare the levels of biodiversity between the Toiga and Tropical rain forest Biom.

Category C: 2 Marks

- a) Write a short note on de-nitrification.
- b) Distinguish between phototrophs and chemotrophs.

10. Bio-Geo Chemical Cycles with special reference to Carbon Di-Oxide and Nitrogen.

Category A: 10 Marks

- a) What is meant by bio-geo-chemical cycle? Explain the nitrogen cycle with diagram.
- b) Explain any nutrient cycle.

Category B: 5 Marks

- a) Write a brief note on sedimentary nutrient cycle.
- b) Highlight the importance of nitrogen cycle in the bio sphere.
- c) Describe carbon cycle with diagram.
- d) Difference between consumer and decomposer.

Category C: 2 Marks

- a) How does de-nitrification take place?
- b) What is the role of decomposer in an ecosystem?
- c) What is the relation between aquatic and atmospheric reservoirs of carbon?

11. Bio Diversity in India.

Category A: 10 Marks

- a) Discuss with suitable examples the relationship between biosphere and other components of the physical environment.

Category B: 5 Marks

- a) What is biodiversity? Explain its significance.

Category C: 2 Marks

- a) What is meant by bio diversity? Explain its significance.
- b) What is homeostatic mechanism of biosphere?

Settlement Geography

Paper Code – GEOADSE02T

Category A: 10 Marks

1. Explain Christaller's theory on the central place.
2. Classify rural settlement on the basis of their functions and indicate with the examples how the functions effect their locations.
3. Accounts for the genesis of different types of rural settlement.
4. Critically discuss the model propounded by E. W. Burges on urban morphology.
5. Critically discuss the concentric zone and the Multiple- Nuclie models of urban morphology.
6. Explain and evaluate the classical modes of urban morphology.
7. Explain the evolution of rural settlement on the basis of site and situation.
8. Explain Rural House types are expressions of Man- Environment Relationship.
9. Explain the physical and socio-cultural factors determining different forms of rural settlement.
10. Analyse the classical modes of urban landuse by
11. Analyse the classical modes of urban landuse by Burgess and Hoyt. How are these theories different from the Multiple- Nuclei model.
12. Classify settlements and describe the factor for the formation of each of them.
13. Mention the various approaches to the funtional classification of urban settlements. Give suitable examples.
14. Describe the concept of Metropolitan Area and Metropolitan Region with special reference to urbanization in India.
15. Account for the origin of dispersed rural settlement in a origin. Under what conditions this can change into clustered forms.

16. Compare rural house types of North India with that South India.
17. Analyse critically the functional classification of towns by Nelson and McKenzie.
18. Discuss with suitable examples the significance of class and caste segregation in the morphology of rural settlement in India.

Category-B: 5 Marks

1. Discuss the social stratification which has developed in rural India.
2. Explain the activities of C.B.D and its relation with the Metropolitan Region.
3. Explain the sector model of urban structure.
4. Briefly discuss the factors favouring nucleation of rural settlement.
5. What is C.B.D ? Specify the characteristic with examples.
6. Distinguish between rural and urban settlements.
7. Write a note on the hierarchy of urban settlements.
8. Mention the socio-cultural factors responsible for dispersion of rural settlement in India.
9. State caste as characteristics of rural settlement.
10. Classify towns according to functions.
11. Highlight the differences between external and internal layout of rural settlement.
12. Critically discuss the significance of the works by Ullman on urban morphology.
13. 'Morphology of Indian villages reflect social segregation' – Elucidate.
14. Elaborate the term Rural Urban Continuum.
15. What is City Region ? How it is different from a Conurbation.
16. Give an outline of a Multiple-Nuclei model of urban settlement.
17. How are the rural house types influenced by climate.
18. What is the role performed by C.B.D in an urban area.
19. How transport linkage influences the location and patterns of settlements.
20. Distinguish between the principles of K-3 and K-4 as enumerated by Christaller.
21. Distinguish between clustered and nodal settlement.
22. Distinguish among Linear, Agglomerated and Nucleated settlement.

23. Define urban settlements as given by the Indian census.

24. Distinguish between Christaller's market principles and **transport principles**.