



GEOADS04T (Climatology)

Category A: 10 Marks

1. Explain the factors controlling insolation and discuss its latitudinal variations with suitable diagrams.
2. Describe the heat budget of the atmosphere. How is balance maintained between incoming and outgoing radiation?
3. Discuss the horizontal and vertical distribution of temperature. What are the major controlling factors?
4. Explain the causes, types, and consequences of temperature inversion with suitable examples.
5. Analyse the greenhouse effect. Discuss the causes and impacts of ozone layer depletion and measures of restoration.
6. Explain the process of condensation and discuss various forms with examples.
7. Describe the mechanisms of precipitation with special reference to Bergeron-Findeisen theory and the collision-coalescence process.
8. Discuss the typology, origin, and characteristics of air masses. Explain how they get modified.
9. Explain the formation and characteristics of warm and cold fronts. How do frontogenesis and frontolysis occur?
10. Differentiate between barotropic and baroclinic conditions. How do they affect weather patterns?



11. Describe the structure, origin, and development of tropical cyclones with reference to recent examples.
12. Explain the mechanism and life cycle of mid-latitude cyclones with the Norwegian model.
13. Discuss the origin and mechanism of Indian monsoon circulation. How do global factors influence it?
14. Compare and contrast Köppen's and Thornthwaite's climatic classifications with examples.
15. Explain the role of atmospheric disturbances in global energy redistribution.

Category B: 5 Marks

16. List the factors affecting insolation at the Earth's surface.
17. Briefly explain the concept of Earth's albedo.
18. What is lapse rate? Differentiate between environmental lapse rate and adiabatic lapse rate.
19. Write short notes on radiation inversion and its effects.
20. Explain the significance of the ozone layer in the atmosphere.
21. Distinguish between condensation and precipitation.
22. Briefly explain the Bergeron-Findeisen theory of precipitation.
23. Write a note on the collision and coalescence mechanism of rainfall.
24. Distinguish between maritime and continental air masses with examples.

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25. Explain the role of cold fronts in weather formation.
 26. Define frontogenesis and frontolysis with simple diagrams.
 27. Differentiate between stable and unstable atmosphere.
 28. Write a short note on baroclinic conditions.
 29. Mention the main characteristics of tropical cyclones.
 30. Differentiate between tropical cyclones and mid-latitude cyclones.
 31. Explain the role of ITCZ in monsoon circulation.
 32. Discuss the seasonal reversal of winds in the Indian monsoon system.
 33. List the basis of Koppen's classification of climate.
 34. Write a short note on Thornthwaite's classification of climate.
 35. Differentiate between arid and humid climates as per Thornthwaite.

Category C: 2 Marks

36. Define insolation.
37. What is the solar constant?
38. State the normal lapse rate of the atmosphere.
39. Define temperature inversion.
40. What is greenhouse gas? Give two examples.
41. Mention one harmful effect of ozone depletion.
42. Define condensation.
43. Name two forms of precipitation.



44. Define air mass.
45. Name the five major types of air masses.
46. What is a warm front?
47. What is a cold front?
48. Define atmospheric stability.
49. Name the region of origin of tropical cyclones in the Bay of Bengal.
50. What is the full name of Koppen, who devised the climatic classification?

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GEOADS04P (Climatology)- Lab

Category A: 10 Marks

1. Interpret the given daily weather map of India (Pre-Monsoon). Comment on pressure distribution and rainfall.
2. Interpret the given daily weather map of India (Monsoon). Identify major synoptic features.
3. Interpret the given daily weather map of India (Post-Monsoon). Write a note on rainfall and pressure.
4. Compare and contrast the weather conditions of India during Pre-Monsoon and Monsoon seasons using weather maps.
5. Construct and interpret a hythergraph for a selected station in India. Explain the relationship between temperature and rainfall.
6. Prepare a hythergraph for a station located in tropical climate. Interpret its seasonal variations.
7. Construct and interpret a G. Taylor climograph for a station with monsoonal climate.
8. Construct a G. Taylor climograph for a temperate station. Compare it with a tropical one.
9. Construct and interpret a monthly rainfall dispersion diagram (quartile method) for a given dataset.
10. Construct a rainfall dispersion diagram for two stations and compare their rainfall variability.
11. Prepare a climatic water budget for a station with humid climate and interpret the findings.
12. Prepare a climatic water budget for a semi-arid station and comment on water surplus/deficit.



13. Compare the water budget of two stations (humid and arid). Highlight the differences.
14. Construct a combined hythergraph and climograph for the same station. Analyse seasonal variations.
15. Using rainfall dispersion diagrams, explain the significance of variability in agricultural planning.

Category B: 5 Marks

16. Identify the major features shown in a daily weather map of India during Monsoon.
17. Write a short interpretation of a pre-monsoon weather map.
18. Compare rainfall distribution of pre-monsoon and post-monsoon seasons from weather maps.
19. Prepare a hythergraph for a given dataset (one year) and write two observations.
20. Construct a simple climograph (Taylor method) and explain its significance.
21. Write a short note on the advantages of climographs in climatology.
22. Construct a rainfall dispersion diagram for a given dataset and mention rainfall variability.
23. Identify the rainfall quartiles from a given dataset using quartile method.
24. Write a short note on rainfall variability and its importance.
25. Prepare a partial climatic water budget for one year (data provided). Write two conclusions.

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26. Identify the water surplus months from a given climatic water budget.
 27. Identify the water deficit months from a given climatic water budget.
 28. Compare hythergraphs of two different stations briefly.
 29. Write a note on the relation between temperature and rainfall as seen in a hythergraph.
 30. Compare the length of wet and dry periods in a given rainfall dispersion diagram.
 31. Identify high rainfall years from a rainfall dispersion diagram.
 32. From a Taylor climograph, identify the hottest and wettest month.
 33. Write a note on the limitations of hythergraphs.
 34. Write a note on the limitations of rainfall dispersion diagrams.
 35. Discuss one practical use of climatic water budget.

Category C: 2 Marks (Viva)

36. What is a weather map?
37. Define isobar.
38. What is a trough of low pressure?
39. Name two sources of Indian daily weather maps.
40. What is a hythergraph?
41. Who introduced the climograph?
42. Write the two variables used in a climograph.
43. Define rainfall dispersion diagram.
44. What is meant by rainfall variability?



45. State one limitation of quartile method in rainfall analysis.
46. Who introduced the concept of climatic water budget?
47. What do you mean by water surplus?
48. What do you mean by water deficit?
49. Which instrument is used to measure rainfall?
50. Name one Indian city where hythergraph shows distinct monsoonal characteristics.

Department of Geography



GEOADS05T (Economic Geography)

Category A: 10 Marks

1. Discuss the nature and scope of Economic Geography. How do different approaches shape the discipline?
2. Explain the concepts of goods and services. How are they linked with production, exchange, and consumption?
3. Discuss the concept of the "economic man" and its relevance in theories of human choices.
4. Explain the concept of economic distance. How do transport costs influence trade and location of industries?
5. Critically examine Von Thünen's model of agricultural location. How far is it applicable to present-day agriculture?
6. Discuss Weber's theory of industrial location. Explain its strengths and limitations with examples.
7. Compare and contrast Von Thünen's and Weber's models of location with suitable diagrams.
8. Explain the significance of primary economic activities with reference to agriculture, forestry, fishing, and mining.
9. Analyse the distribution and development of the cotton textile industry in India and the world.
10. Discuss the factors affecting the location and development of the iron and steel industry in India.
11. Explain the concept of manufacturing regions. Give examples from India and abroad.
12. Discuss the role of special economic zones (SEZs) and technology parks in India's industrial development.



13. Examine the importance of tertiary activities in the modern world economy. Illustrate with examples of transport and trade.
14. Discuss the process of economic globalisation. What are its impacts on developing economies?
15. Critically evaluate the role of WTO in shaping global trade patterns.

Category B: 5 Marks

16. Define Economic Geography.
17. Distinguish between goods and services with examples.
18. Write a short note on production and consumption in economic geography.
19. Define economic distance and give an example.
20. List the main assumptions of Von Thünen's model.
21. Write a short note on Weber's theory of industrial location.
22. Mention two advantages and two limitations of Von Thünen's model.
23. Differentiate between primary and secondary economic activities with examples.
24. Write a short note on fishing as a livelihood activity.
25. Mention the major factors influencing mining activity.
26. Explain the importance of cotton textile industry in India's economy.
27. Write a note on the iron and steel industry of Jamshedpur.
28. What is a manufacturing region? Give one example.
29. Write a note on the significance of technology parks.
30. Explain the concept of tertiary activities with examples.



Category C: 2 Marks (Viva)

31. Define goods in economic geography.
32. What is meant by services?
33. State one difference between production and consumption.
34. Who introduced the concept of "economic man"?
35. Define economic distance.
36. Mention two factors that affect economic activity.
37. What is the central idea of Von Thünen's model?
38. Write one limitation of Weber's model.
39. Name two primary activities.
40. Name two secondary activities.
41. Give two examples of tertiary activities.
42. What is meant by globalisation?
43. State one advantage of globalisation.
44. State one disadvantage of globalisation.
45. Expand WTO.
46. Expand BRICS.
47. Name any two member countries of BRICS.
48. What is a special economic zone (SEZ)?
49. What is meant by economic bloc?
50. Name one post-WWII economic bloc other than BRICS.



GEOADS06T (Geography of India and West Bengal)

Category A: 10 Marks

1. Discuss the tectonic and stratigraphic provinces of India. How have they influenced the country's geology?
2. Describe the physiographic divisions of India with suitable maps.
3. Explain the major climatic regions of India and their characteristics.
4. Discuss the soil types of India and their agricultural significance.
5. Explain the vegetation regions of India and factors controlling them.
6. Describe the tribal distribution of India with special reference to Gaddi, Toda, Santal, and Jarwa.
7. Discuss the agricultural regions of India. Evaluate the impact of the Green Revolution (Phase I and II).
8. Examine the distribution and utilisation of iron ore, coal, petroleum, and natural gas in India.
9. Analyse the automobile industry in India with special reference to its locational factors.
10. Discuss the growth and development of the information technology industry in India.
11. Explain the concept of regionalisation of India as proposed by R.L. Singh and P. Sengupta.
12. Describe the physiographic divisions of West Bengal with suitable sketch maps.
13. Examine the forest and water resources of West Bengal and their economic significance.
14. Discuss the agricultural resources of West Bengal with examples.

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15. Analyse the regional issues of Darjeeling Hills and Sundarban in detail.

Category B: 5 Marks

16. Write a short note on the Himalayas as a tectonic province.
17. List the major physiographic divisions of the Deccan Plateau.
18. Mention two main features of India's monsoon climate.
19. Write a short note on black soil and its importance.
20. Describe the distribution of tropical evergreen forests in India.
21. Write a short note on the Gaddi tribe.
22. Write a short note on the Toda tribe.
23. Briefly mention the contributions of the Santals in Indian society.
24. Write a note on the impact of Green Revolution Phase I.
25. Mention the major petroleum producing regions of India.
26. Write a note on the coalfields of Jharkhand.
27. Briefly explain the significance of the automobile industry in Chennai.
28. Write a note on Bangalore as an IT hub.
29. Mention two features of R.L. Singh's regionalisation of India.
30. Write a short note on the forest resources of West Bengal.

Category C: 2 Marks (Viva)

31. Name two stratigraphic provinces of India.
32. Which is the largest physiographic division of India?
33. Define monsoon.
34. Name two types of soil found in India.



35. Which is the most widely distributed vegetation type in India?
36. Name the state where the Toda tribe lives.
37. The Gaddi tribe is mainly found in which region?
38. Name the state where the Santal tribe is concentrated.
39. Name the island where the Jarwa tribe lives.
40. What is meant by the Green Revolution?
41. Name one state where Phase II of the Green Revolution was implemented.
42. Which state is the largest producer of iron ore in India?
43. Name two major coalfields of India.
44. Which state has the largest petroleum reserves?
45. Name two major automobile producing centres in India.
46. Which Indian city is called the "Silicon Valley of India"?
47. Who proposed the physiographic regionalisation of India?
48. Name two physiographic divisions of West Bengal.
49. Which river system is most important for irrigation in West Bengal?
50. Mention one major issue of the Sundarban region.



GEOADS07T (Cartographic Technique)

Category A: 10 Marks

1. Explain the rules of scientific notation with suitable examples. Show how rounding-off affects cartographic accuracy.
2. Discuss the use of logarithms and anti-logarithms in cartographic techniques with examples.
3. Classify maps according to function and scale. Discuss their components with diagrams.
4. Compare and contrast comparative, diagonal, and vernier scales with suitable diagrams.
5. Construct a diagonal scale to show kilometers and meters. Explain the steps involved.
6. Differentiate between polar and rectangular coordinate systems with examples of their applications.
7. Explain the steps of generating a globe and the principle of UTM projection.
8. Classify map projections. Discuss their properties and uses with suitable diagrams.
9. Discuss the advantages and limitations of cylindrical, conical, and azimuthal projections.
10. Draw and interpret a line graph, bar diagram, and isopleth map using given data.
11. Discuss the merits and demerits of proportional circles, spheres, and choropleth methods in representing area data.
12. Prepare and interpret a dot map using population data of Indian states.



13. Explain the principles and procedures of preparing a land use land cover (LULC) map.
14. Discuss the thematic representation of socio-economic data with examples.
15. Write a critical note on the importance of thematic mapping in human geography with examples.

Category B: 5 Marks

16. Write a short note on rounding-off errors.
17. Explain the difference between a logarithm and a natural logarithm.
18. Mention the essential components of a map.
19. Distinguish between small-scale and large-scale maps with examples.
20. Write a note on the construction of a comparative scale.
21. Explain the principle of a vernier scale.
22. Differentiate between polar and rectangular coordinate systems.
23. Write a short note on the Universal Transverse Mercator projection.
24. State two advantages of conical projections.
25. Distinguish between equal-area and conformal projections.
26. Write a note on the uses of isopleths in climatology.
27. Explain the proportional circle method briefly.
28. Distinguish between dot and sphere methods of data representation.
29. Write a short note on the preparation of land use maps.
30. Explain the importance of socio-economic mapping in planning.

Category C: 2 Marks (Viva/Conceptual)

31. Define scientific notation.



32. What is the base of a common logarithm?
33. Write the first two rules of rounding off numbers.
34. Give two examples of large-scale maps.
35. What is meant by a cadastral map?
36. Name two essential elements of a map.
37. What is meant by a linear scale?
38. Write the formula to convert RF into statement scale.
39. Name two applications of the diagonal scale.
40. Define polar coordinates.
41. What is the full form of UTM?
42. Who proposed the Universal Transverse Mercator system?
43. Name two properties of equal-area projections.
44. Which projection is best for navigation?
45. Define an isopleth.
46. Name two examples of socio-economic maps.
47. What is the main principle of a choropleth map?
48. Define proportional sphere method.
49. Mention one limitation of dot method.
50. What is meant by thematic mapping?



GEOADS07P (Cartographic Technique)- Lab

Category A: 10 Marks

1. Construct a **comparative scale** to measure distances in kilometers and miles from a given RF.
2. Draw a **diagonal scale** to show kilometers, hectometers, and meters. Explain the steps.
3. Construct a **vernier scale** to measure to the accuracy of 1/10th of a unit.
4. Construct a **Polar Zenithal Gnomonic projection** and state its properties.
5. Draw a **Polar Zenithal Stereographic projection** and interpret its uses.
6. Construct a **Polar Zenithal Orthographic projection** and explain its limitations.
7. Draw a **Simple Conic projection with one standard parallel** and show its properties.
8. Construct a **Bonne's projection** for India and discuss its application.
9. Construct a **Cylindrical Equal Area projection** for the world map.
10. Prepare a **Mercator's projection** and explain why it is useful for navigation.
11. Draw an **Age-Sex pyramid** for a given population dataset. Interpret the results.
12. Prepare a **Dot map** showing rural population distribution in West Bengal from supplied data.
13. Prepare a **Sphere diagram** showing rural and urban population distribution from supplied data.
14. Draw a **Flow chart** showing the stages of demographic transition.



15. Construct and compare **two projections** (e.g., Mercator and Cylindrical Equal Area) using the same dataset and highlight the differences.

Category B: 5 Marks

16. Construct a small **comparative scale** using a given RF.
17. Draw a short **diagonal scale** to show meters and explain one limitation.
18. Sketch a rough diagram of **Polar Zenithal Orthographic projection**.
19. Show graphically the difference between **stereographic and gnomonic projections**.
20. Construct a simple **flow chart** showing stages of economic activity.
21. Prepare a small **Age-Sex pyramid** from simplified data (only two age groups).
22. Draw a miniature **dot diagram** for population distribution (dataset provided).
23. Construct a **bar-type flow chart** for trade movement between two regions.
24. Prepare a sketch of **Bonne's projection** (outline only).
25. Construct a **cylindrical equal-area projection** with a smaller dataset.

Category C: 2 Marks (Viva / Oral / Conceptual)

26. What is a **comparative scale**?
27. Define a **diagonal scale**.
28. What is the function of a **vernier scale**?
29. What is the basic principle of **gnomonic projection**?
30. Name one use of **stereographic projection**.



31. Which projection shows the Earth as seen from space?
32. Define a **standard parallel**.
33. Who introduced **Bonne's projection**?
34. What is the main property of **Cylindrical Equal Area projection**?
35. Why is **Mercator's projection** useful for navigation?
36. What is an **Age-Sex pyramid**?
37. Define a **dot map**.
38. What is the main difference between **dots** and **spheres** in cartographic representation?
39. Name one limitation of the **sphere diagram**.
40. What is the purpose of a **flow chart**?
41. Which projection is most suitable for drawing **world maps**?
42. Write one advantage of a **conic projection**.
43. What is meant by **equal-area property** in a projection?
44. Which type of data is best represented by a **dot method**?
45. Name two examples of **thematic maps**.
46. What is the smallest unit shown in a **diagonal scale**?
47. Why do we need **thematic mapping** in geography?
48. Which projection is called the "**mariner's projection**"?
49. What is meant by **graphical construction** in cartography?
50. Mention one difference between **topographical maps** and **thematic maps**.