

2026

GEOGRAPHY — HONOURS

Paper : DSCC-8

(Cartographic Techniques)

Full Marks : 75

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

(Use of scientific calculator is allowed in this examination.)

Category - A

Answer **any ten** questions (each within **50** words).

2×10

1. Convert the polar co-ordinates (5 m, 60°) into rectangular co-ordinates.
2. What is scale factor?
3. Distinguish between whole circle bearing and reduced bearing.
4. A ship travels on a bearing of 225°. In which direction is it moving?
5. Why is Mercator's Projection called conformal projection?
6. Write down the R.F. of the following SOI topographical maps : (i) 79 B (ii) 79 B N/E.
7. What is a great circle?
8. Mention two characteristics of choropleth map.
9. What are conventional signs?
10. Why is a graphical scale necessary in a thematic map?
11. State one feature of open series toposheet of SOI.
12. What is a 'legend' of a map?
13. State any one limitation of Simple Conical Projection with one standard parallel.
14. Explain the meaning of the term 'chorochromatic'.

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Category - BAnswer *any five* questions (each within 150 words).

15. Distinguish between Polar and Cartesian co-ordinate systems. 5
16. Explain the difference between spheroidal and geoidal shape of the earth. Illustrate your answer explaining the inequality of the equatorial and polar axes of the earth. 3+2
17. Which cartographic symbols would be suitable to represent the following and why? 5
- Density of forests in States of India.
 - Land use of CD Blocks of Bankura district.
 - Equal amount of rainfall in districts of West Bengal.
 - Occupational structure of CD blocks of Nadia.
 - Rural and urban population in the CD blocks of Birbhum district.
18. What is the difference between True North and Magnetic North? What is the angle between these two called? 4+1
19. The distance between two points M and N on a SOI topographical sheet R.F 1 : 50,000 is 21.5 cms. What is the corresponding ground distance? What is the latitudinal and longitudinal interval of this map? 4+1
20. Convert the following whole Circle Bearings to Qudrantal Bearings : 5
- (a) 45°30' (b) 222°15' (c) 140°45' (d) 320°30' (e) 125°45'
21. What are the properties of Polar Zenithal Stereographic Projection? How do great circles appear in this projection? 4+1

Category - CAnswer *any two* questions (each within 500 words).

22. Explain the zoning system of UTM projection. How can a point be located using UTM co-ordinates? 10+5
23. Compare the properties, limitations and uses of Mercator's and Cylindrical Equal Area Projection. 7½+7½
24. Discuss the type of data representation using dots, proportional spheres and divided proportional circles. Highlight their respective strengths and weaknesses. 6+9
25. Explain the significance of marginal information in SOI topographical maps. 15