Total number of printed pages–3

14 (GGY – 3) 3156 (COP)

2023

GEOGRAPHY

(Optional)

Paper : GGY–3156

(Cartography Optional Paper)

Full Marks : 80

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

GROUP–A

(Marks : 48)

Answer **any three** of the following questions :

16×3=48

1. Define the field of cartography and discuss its history of development. 4+12=16

2. What is a spherical triangle ? With the help of necessary diagrams derive the cosine formula of a sphrical triangle ABC.

2+14=16

3. Derive necessary formulae to construct the graticule of the Albers conical Equal-Area projection. State its basic properties uses and limitations. 12+4=16

4. What is traversing ? Explain the principles and procedure of conducting closed traverse surveying with the help of prismatic compass. 2+14=16

5. What is a map ? Mention its elements and characteristics. Explain why map is called a powerful tool for spatial analysis. 2+4+10=16

GROUP–B

(Marks : 32)

Answer **any four** of the following questions : 8×4=32

6. Derive the sine formula of a plane triangle. Mention its practical utilities. 6+2=8

7. What is Homocosine projection ? Discuss its principles, properties and uses. 2+6=8

8. Compute the distance and direction between A (15°N, 12°E) and B (48°N, 79°E) on the Mercator's projection with scale 1:100,000,000. 8

9. Describe the shape and size of the earth with reference to various parameters. 8

10. Discuss the principles of plane table surveying with the help of intersection and resection methods. 8

11. Write short explanatory notes on **any two** of the following : 4×2=8

   (a) Determination of height of a building with the help of theodolite in the case of accessible and inaccessible object distance

   (b) International map projection

   (c) Total station and its functions

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