

**2021**

**GEOGRAPHY — HONOURS**

**Paper : CC-2**

**(Cartographic Techniques)**

**Full Marks : 50**

*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 Calculator allowed.]**

**Category - A**

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

2×5

1. Define Vernier Constant.
2. What do you mean by a developable surface in map projection?
3. Why are graphical scales in a map necessary?
4. Frame a statement scale in metric system when the given Representative Fraction is 1 : 5,00,000.
5. What are Cadastral maps?
6. Given points  $P(x_1, y_1)$  and  $Q(x_2, y_2)$ . Find the distance  $PQ$  using an explanatory diagram.
7. Show with the help of a diagram how co-ordinate signs are positive (+) and negative (–) in the four quadrants.

**Category - B**

Answer **any four** questions (each within **150** words).

5×4

8. Why is a diagonal scale considered to be more accurate than a plain graphical scale?
9. What are the properties of UTM projection?
10. What do you understand by the term orthomorphism? Name a cylindrical and a zenithal projection where this property is maintained.
11. What is a standard parallel? How is it selected?

**Please Turn Over**

12. Convert the following Whole Circle Bearings into Reduced Quadrantal bearings :

(a)  $267^{\circ}42'$

(b)  $87^{\circ}18'$

(c)  $326^{\circ}25'$

(d)  $100^{\circ}42'$ .

13. Distinguish between Azimuth and Magnetic bearings with suitable examples.

**Category - C**

Answer *any two* questions (each within **500** words).

14. What is Loxodrome? What is the utility of the Equatorial scale in the Mercator's projection? Point out the major advantages and disadvantages of Mercator's projection. 2+4+4

15. Explain with the help of diagrams the differences between spheroid, ellipsoid and geoid. What is a volume symbol? Give an example. Where and why is a volume symbol used? 6+1+1+2

16. Classify map projections with examples on the basis of methods of projection. 10

17. Define scale. What are the different methods of representing scale? Explain the merits and demerits of different types of graphical scale. 2+3+5

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