

2019

## GEOGRAPHY — HONOURS

Paper : CC- 4

(Thematic Mapping and Surveying)

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 Scientific calculator is allowed in this paper.*

## ✓ Group - A

Answer any five questions (each within 50 words).

1. Convert the following to its scientific notations or to its original numbers : ½×4
  - (a) 204
  - (b) 0.045
  - (c) 0.00002011
  - (d)  $2.63 \times 10^4$
- ✓ 2. What does log 2 mean? What is the antilog of 3? 1+1
- ✓ 3. Differentiate between qualitative and quantitative data. 2
- ✓ 4. Define strike and dip of a rock bed. 1+1
- ✓ 5. A weather map represents relatively higher pressure over land and relatively lower pressure over sea coupled with precipitation in the North Western part of the Indian sub-continent. Which season does the weather map represent and why? 2
6. What is the utility of a prism in a prismatic compass? What is closing error? 1+1
- ✓ 7. How can the following be represented on a map? ½×4
  - (a) Density of population
  - (b) Number of trains between Howrah to Mumbai and Howrah to Delhi
  - (c) Urban populations for the districts of Karnataka
  - (d) Occupational structures for the districts of West Bengal.

## Group - B

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

8. Distinguish between Apparent Dip and True Dip. How is true dip calculated mathematically? 3+2
9. (a) Explain the use of an Abney Level.  
 (b) The distance between two points A and B measured along a slope is 250 M. Find the horizontal distance AB when the angle of slope is  $5^\circ$ .  
 (c) What is the smallest accurate reading that can be measured in an Abney Level? 2+2+1
10. What are the main types of igneous intrusions? How will you identify them on a geological map? 3+2
11. The following are the bearings of the lines of a Closed Traverse ABCD. Calculate the included angles of the traverse. What is the formula for calculating the sum of included angles in a traverse? 4+1

LINE	FORE BEARING
AB	N $55^\circ 15'$ E
BC	S $46^\circ 45'$ E
CD	S $11^\circ 0'$ W
DA	N $60^\circ 30'$ W

12. What are the objectives of Land Use and Land Cover map? 5
13. The top of a house (C) has an elevation of  $15^\circ$  from an instrument stationed at A. The distance between A and B (base of the house) is 25M. Find — 3+2
- (a) Height of the house (BC) when instrument height is 1.5 M from A.  $AB + 1.5 = 94.8$
- (b) Inclined distance (AC) from Point A.

## Group - C

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

14. What are the different types of maps produced by —  
 (a) NATMO  
 (b) GSI  
 (c) NRSC / Bhuvan?  
 Bring out the usefulness and applicability of each type of map. 6+4
15. Discuss the different parts of a Theodolite and its uses in detail. Explain how it can be used to find vertical angles. 6+4
16. What are the features of weather observed during the SW monsoon season in India? How are these elements shown on a weather map? 7+3
17. What is socio-economic map? Describe the principles and objectives of socio-economic map. 3+7