WEST BENGAL STATE UNIVERSITY
B.A./B.Sc. Honours 1st Semester Examination, 2022-23

GEOACOR02T-GEOGRAPHY (CC2)

CARTOGRAPHIC TECHNIQUES

Time Allotted: 2 Hours   Full Marks: 40

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

FOR REGULAR SYLLABUS

CATEGORY-A

Answer any *one* question from the following (within 600 words)   10×1 = 10

1. (a) Explain polar coordinate system for locating a point on our spherical earth.   4+6

   (b) Describe in brief the basics of UTM projection and its grid system.

2.   Explain the process of coding system in old series topographical maps published   6+4
     by the Survey of India using relevant sketches. Mention the major information on
     the margins of such maps.

CATEGORY-B

Answer any *four* questions from the following (within 150 words each)   5×4 = 20

3.   What is constant of cone? Explain.

4.   Classify Map Projections based on the plane of the projection.

5.   Explain the advantages and disadvantages of Representative Fraction.

6.   Distinguish between perspective and non-perspective projections.

7.   The northing of two points M and P in a UTM zone are 8200 m N and 9,999,900 m N
     respectively. Find out the linear distance of these two points with respect to the
     equator.

8.   Distance between two points AB measures 6 cm on a map which is drawn on a
     scale 1:75000. The same distance AB is measured as 10 cm in another map.
     Calculate the RF of the second map and also determine the magnitude of
     enlargement or reduction of the second map.

9.   Classify maps on the basis of object and content.

CATEGORY-C

Answer any *five* questions from the following (within 50 words each)   2×5 = 10

10. What is meant by WGS 84 datum? Explain.

11. Define Generating Globe.

12. Discuss the use of Mercator's Projection.

13. Define spot height on a topographic map.

14. Define thematic map.

15. Describe the utility of 'index of sheets'.

16. A map is produced by reducing 1/9th of the original area of a map. If the scale of the old map is 1:50000 then what will be the scale of the new map?

17. What is vernier constant?

18. What is false easting and northing?

FOR TRUNCATED SYLLABUS

CATEGORY-A

Answer any *one* question from the following (within 600 words)   10×1 = 10

1. Define scale. Compare and contrast between Linear Scale and Diagonal Scale with suitable examples.   2+8

2. (a) Explain the process of coding system in open series topographic map published by Survey of India.   6+4

   (b) The scale of a map was 1 cm to 160.5 km and it has been redrawn on a new scale of 1 cm to 119.5 km, now calculate the magnitude of enlargement in percentage.

CATEGORY-B

Answer any *four* questions from the following (within 150 words each)   5×4 = 20

3. Discuss the major characteristics of perspective projection with suitable example.

4. How does R.F. determine the scale of a toposheet number 64 D/14?

5. Differentiate between radial scale factor and Tangential scale factor in a projection.

6. Explain the principle of construction of diagonal scale.

7. Prove that the radius of any parallel on polar zenithal stereographic projection is $2R \tan\left(\dfrac{90-\Phi}{2}\right)$.

8. Explain significance of UTM projection in geographical studies.

9. List the main information provided in the sides of a toposheet.

CATEGORY-C

Answer any *five* questions from the following (within 50 words each)   2×5 = 10

10. Write a short note on Generating Globe.

11. What is WGS-84 datum?

12. Write a short note on Cadastral Map.

13. Find the polar co-ordinates of a point having Cartesian Co-ordinates (−1, −1).

14. What is legend?

15. Differentiate Zenithal and Cylindrical Projection.

16. What is standard parallel?

17. What is developable surface?

18. What is polar-co-ordinate?

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