



**WEST BENGAL STATE UNIVERSITY**  
B.A./B.Sc. Honours 1st Semester Examination, 2021-22

**GEOACOR01T-GEOGRAPHY (CC1)**  
**GEOTECTONICS AND GEOMORPHOLOGY**

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.*

**CATEGORY-A**

**Answer any one question from the following within 600 words**

10×1 = 10

1. Elucidate the structure and composition of earth's interior layers with special reference to seismological evidences. What is meant by surface waves or L waves? 8+2
2. Explain with suitable sketches the characteristic features of erosional landforms produced by glacier. What is erratic? 8+2

**CATEGORY-B**

**Answer any four questions from the following within 150 words each**

5×4 = 20

3. Briefly describe the factors which control landslides.
4. How 'Inselberg' is formed in arid regions?
5. Briefly discuss the landforms of arid and semi-arid regions caused by fluvio-aeolian action.
6. Distinguish between slump and slide.
7. Explain the formation of island arcs.
8. Explain the role of Asthenosphere in plate movement.
9. What are the characteristics of convergent plate margins?

**CATEGORY-C**

**Answer any *five* questions from the following within 50 words each**

**2×5 = 10**

10. What do you mean by migration of dunes?
11. What is chelation?
12. What is bio-geo-chemical weathering?
13. Explain duricrust.
14. Differentiate between crevasse and bergschrund.
15. Define lahar.
16. State the significance of the Quaternary Period.
17. What is epoch?
18. How deflation hollow is formed?

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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**WEST BENGAL STATE UNIVERSITY**  
B.A./B.Sc. Honours 1st Semester Examination, 2021-22

**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.*

**CATEGORY-A**

**Answer any one question from the following**

10×1 = 10

1. Classify map projection based on plane of projection and location of tangent plane. Discuss the relative importance of tangential scale and radial scale of a point on any projection. 4+6
2. Compare the Reference schemes of Old and Open Series topographical maps. Mention the characteristics of polar co-ordinate system. 6+4

**CATEGORY-B**

**Answer any four questions from the following**

5×4 = 20

3. Find the Polar co-ordinates of a point whose Cartesian co-ordinates are  $(-1, -1)$ .
4. If the measured distance from  $x$  to  $y$  on a Map 'A' with a scale of 1:10,000 is 10 cm, then what would be the scale of Map 'B', if the distance between  $x$  and  $y$  on that map is 2 cm?
5. Why is UTM co-ordinate system not used beyond  $84^\circ\text{N}$  and  $80^\circ\text{S}$  Parallels?
6. Prove that the height of any parallel from the equator on Cylindrical Equal Area Projection is  $R \sin \phi$ .
7. Explain why deformation occurs in map projection.
8. What does UTM grid 58J refer to? Find out the Easting and Northing of A in UTM grid while it lies 6055 m west of central meridian and 33665 m south of equator.

9. Why is Mercator's Projection regarded as Cylindrical Orthomorphic Projection? 3+2  
Why is this projection useful for navigation?

**CATEGORY-C**

**Answer any five questions from the following**

2×5 = 10

10. State the relation between primary, secondary and tertiary divisions of a diagonal scale.
11. What is the significance of Transect Chart?
12. Differentiate between Polar Coordinate and Rectangular Coordinate.
13. Write a short note on Cadastral Map.
14. Mention the advantages of linear scale.
15. Mention the projection of datum of OSMs.
16. A Bonne's Projection is drawn on a scale 1:50,000,000. Calculate the radius of the standard parallel which is 40°S in this Projection.
17. Mention the RF of the following SOI Topographical Maps: 1+1  
(a) 76D  
(b) 74D/9.
18. Find out the rectangular co-ordinates of  $M$ , while its polar co-ordinates are  $\{36m, (\pi - \pi/3)\}$ .

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