

GEOGRAPHY

Paper: GEO101T

Full Marks: 80

Time: 4 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer **four** questions, selecting one from Group A, two from Group B and another from Group C.

GROUP: GEO101T.1

(Geotectonics)

1. What do you mean by ring of fire? Critically discuss the theory of sea-floor spreading. What are hotspots? (5 + 12 + 3 = 20)
2. Analyse the internal structure of the earth in the light of seismic waves. What do you mean by Kratogens? How is Benioff zone identified? (12 + 3 + 5 = 20)

GROUP: GEO101T.2

(Geomorphology)

3. 'Landscape is a function of time and space' – explain. How do polycyclic landscapes develop? What is base-level? (12 + 5 + 3 = 20)
4. Distinguish between cyclic and non-cyclic concepts with specific examples. Outline the development of graded profile. What is valley-in-valley? (12 + 5 + 3 = 20)
5. Specify the methods of morphometric analysis on areal aspects of a river basin. How is hypsometric curve prepared? Define ephemeral stream. (12 + 5 + 3 = 20)
6. Define permafrost. Describe the major periglacial landforms with suitable diagrams. How do you distinguish between river valley and glacial valley? (3 + 12 + 5 = 20)

GROUP: GEO101T.3

(Hydrology)

7. Differentiate confined aquifer from unconfined aquifer. Explain the global hydrological cycle. Explain the significance of Piezometric level. (3 + 12 + 5 = 20)

8. Give reasons for fresh water crisis of India. Explain the methods of fresh water management. What do you mean by rain water harvesting? (5 + 12 + 3 = 20)

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GROUP: GEO102T.1

(Climatology)

1. What are the cognate disciplines of climatology? Distinguish between Polar air mass and Tropical air mass. Explain the mechanism of Tri-cellular Model atmospheric circulation.
(3 + 5 + 12 = 20)
2. Bring out the classification of air-mass. What is meant by thermodynamic modification of air-mass? Explain the processes of adiabatic heating and cooling.
(12 + 3 + 5 = 20)
3. Differentiate El Nino from La Nina. Analyse the influence jet stream and El Nino on the formation of Indian monsoon with illustrations. What is Southern Oscillation?
(3 + 12 + 5 = 20)
4. What are the major sources of greenhouse gases? Describe in brief the methods of weather forecasting. Explain the issue of global warming at present situation in brief.
(3 + 12 + 5 = 20)

GROUP: GEO102T.2

(Soil Geography)

5. Differentiate zonal soil from azonal soil. Identify soil orders and specify their major characteristics following USDA soil taxonomy. Distinguish between laterite and podzol soil. (3 + 12 + 5 = 20)
6. What is soil pollution? Explain the causes and consequences of soil degradation. Highlight the necessity of integrated management of soil. (3 + 12 + 5 = 20)

GROUP: GEO102T.3

(Biogeography)

7. Discuss different types of adaptations of plants. What do you mean by climax community? Assess the impact of climate on world distribution of plants with necessary illustrations. (5 + 3 + 12 = 20)
8. Outline the importance of biodiversity. Specify the objectives, programme areas and salient features of IBP with a critical note. What is biodiversity hotspot? (5 + 12 + 3 = 20)

GEOGRAPHY

Paper: GEO103T

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Answer **four** questions, selecting two from Group A, **one** from Group B and **another** from Group C.

GROUP: GEO103T.1

(Social Geography)

1. Bring out the idea of social space with suitable example. What do you understand by social class? Bring out the concept of Millennium Development Goals.

(5 + 3 + 12 = 20)

2. Elaborate the concept of social well-being. Why are subaltern studies important in geography? Explain the distribution and major characteristics of endemic and epidemic diseases.

(5 + 3 + 12 = 20)

3. State the significance of social distance. Unfold the nature and give reasons of caste based classification of Indian society. Compare the Indian social class with European social class.

(3 + 12 + 5 = 20)

4. What is ethnicity? Write short note on human development index. What is Gender Inequality Index?

(3 + 12 + 5 = 20)

GROUP: GEO103T.2

(Cultural Geography)

5. What do you understand by cultural ecology? Assess the role of major folk fairs and festivals in west Bengal highlighting their effects on reformation of social and cultural integrity. Write the positive effects of globalization.

(3 + 12 + 5 = 20)

6. What do you mean by *ghetto*? Bring out the salient characteristics of ethno-ecology of any one PTG in India. What do you mean by mosaic of culture?

(5 + 12 + 3 = 20)

GROUP: GEO103T.3

(Political and Historical Geography)

7. Bring out the differences between nation and state. Illustrate the concept of state after Marx. Highlight any one of the major international riverine water disputes involving India with her neighbouring countries.

(3 + 5 + 12 = 20)

8. Enunciate the scope of historical geography. Examine the major characteristics of agriculture in Mughal period. Trace the development of coffee plantation farming in colonial period.

(3 + 12 + 5 = 20)

GEOGRAPHY

Paper : IV

(GROUP-A)

(Toposheet Interpretation and Fluvial Morphometry)

[PRACTICAL]

SET-I

Full Marks : 40

Time : 4 Hours

The figures in the right-hand margin indicate marks.

Answer all the questions.

1. Identify the pattern of settlements on the given area (5'×5') of a topographical sheet (R.F. 1:50,000) using Nearest Neighbour Analysis. 12
2. Calculate drainage density on the given area (4kms.×4 kms.) of a topographical sheet with R.F. 1:50,000. Prepare a drainage density map of the given area and interpret. 6+(4+4)= 14
3. Draw any two drainage patterns from the given topographical sheet (R.F. 1:50,000). 2+2=4
4. Laboratory Note Book and Viva-voce. 5+5=10

GEOGRAPHY

(Survey with Instruments)

Paper : IV

GROUP-B

[PRACTICAL]

SET-I

Full Marks : 40

Time : 4 Hours

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Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions.

1. With the help of a transit theodolite where the base is inaccessible, find out the height of the given object and plot the same with a suitable scale.
10+5+5=20
2. The following readings have been obtained from the field by Dumpy Level survey:

Station	Distance in Metre	Staff Readings in Metre		
		B.S.	I.S.	F.S.
A	0	8.750		
B	5		7.350	
C	10		7.300	
D	15		7.275	
E	20	6.105		6.295
F	25		5.555	
G	30		4.500	
H	35		5.845	
I	40			5.790

Calculate the reduced levels of the stations following *Rise and Fall method* assuming BM 30m. at station E. Show the arithmetic check.

$$4+1=5$$

3. Write any **two** short notes from the following:

$$2\frac{1}{2} \times 2 = 5$$

- i) Contouring
- ii) Forward bearing
- iii) Total Station
- iv) Bench mark

4. Practical Note Book and Viva Voce. $5+5=10$