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UNIVERSITY OF NORTH BENGAL
B.A./B.Sc. Major 4th Semester Examination, 2026

GEOGMAJ407-GEOGRAPHY
GEOGRAPHICAL INFORMATION SYSTEM

Time Allotted: 2 Hours 30 Minutes

Full Marks: 60

The figures in the margin indicate full marks.

SECTION-I

I. Answer any **five** questions from the following:

2×5 = 10

- Vector Data
- Pixels
- Topology
- Spatial Data
- GIS Software
- Data input Sources
- DBMS
- Digitization.

SECTION-II

Answer any **four** questions from the following

5×4 = 20

- Define GIS. Discuss the nature of GIS.
- Write a short note on database models in GIS.
- What is a coordinate system in GIS?
- Discuss the role of GIS in environmental management.
- Write a note on advantages of GIS.
- Discuss the importance of Data Quality in GIS.

2+3
5
5
5
5
5

SECTION-III

Answer any **three** questions from the following

10×3 = 30

- Discuss use of map projections in GIS. What are the key aspects of map projections in GIS?
- Discuss GIS data types and file formats of spatial data with examples.
- Discuss the application of GIS in natural resource management and agriculture.
- What are the major sources of error in GIS? Discuss with examples.
- What is Web GIS? What are the key aspects of Web GIS and what are its advantages?

5+5
10
5+5
10
10

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GEOGMAJ408-GEOGRAPHY

GEOGRAPHY OF INDIA

Time Allotted: 2 Hours 30 Minutes

Full Marks: 60

The figures in the margin indicate full marks.

SECTION-I

1. Explain the following terms (any *five*): 2×5 = 10
 - (a) Bhangar
 - (b) ENSO
 - (c) NSSO
 - (d) Jet Stream
 - (e) Footloose Industry
 - (f) NHAI
 - (g) Montane Forest
 - (h) Sarva Shiksha Abhiyan.

SECTION-II

Answer any four questions

5×4 = 20

2. Write a brief account of the characteristics of Western Himalayas. 5
3. Briefly describe the rural urban composition of population of India. 5
4. Discuss in brief the spatial pattern of cotton textile industry of India. 5
5. Highlight the impact of La Nina on Indian subcontinent. 5
6. Discuss the importance of Golden Quadrilateral Highway in India. 5
7. Write a short note on the development of automobile industry in India. 5

SECTION-III

Attempt any three questions from the following

10×3 = 30

8. Define 'natural vegetation'. Give an account of the classification of natural vegetation of India, as suggested by Champion and Seth. 2+8
9. Write an account of climatic regions of India suggested by Stamp. 10
10. Give an account of the growth and distribution of population in India during the census years. What are the chief causes of growth of Indian population? 6+4
11. Discuss the importance of rail transport in India. What are the problems faced by rail transport in India? 6+4
12. Give an account of distribution of petro-chemicals industry in India. What are its problems and future prospects? 5+5

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UNIVERSITY OF NORTH BENGAL
B.A./B.Sc. Major 4th Semester Examination, 2026

UGEOMAJ24006-GEOGRAPHY

CLIMATOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

SECTION-I

1. Define the following terms: 1×5 = 5
- (a) Albedo of earth
 - (b) F₂ layer of Ionosphere
 - (c) Air Drainage
 - (d) Planetary wind
 - (e) Orographic Rainfall.

SECTION-II

Answer any three questions from the following 5×3 = 15

- 2. Describe the vertical layering of the atmosphere of earth. 5
- 3. Define ozone depletion. What are the chief causes of ozone depletion? 2+3
- 4. Write a brief account on global pressure belts. How are global pressure belts related with planetary wind belts? 3+2
- 5. Define EL Nino. What are its impacts on monsoon circulation? 5
- 6. Write an account on Type B climate and its variations. 5

SECTION-III

Answer any two questions from the following 10×2 = 20

- 7. Define insolation. Write an account of heat budget of earth with suitable diagram. 2+8
- 8. Describe the mechanism of precipitation according to Bergeron-Findeissen Theory. 10
- 9. Define "front". Classify fronts and discuss the weather phenomena associated with fronts. 2+8
- 10. What is the basis of classification of world's climates done by W. Koppen? Discuss the advantages and limitations of this system. 5+5

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UGEOMAJ24007-GEOGRAPHY

GEOGRAPHY OF INDIA

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

SECTION-I

1. Explain the following terms:

1×5 = 5

- (a) Thermocline
- (b) Regur
- (c) Shisham
- (d) Water Metro
- (e) N.H.A.I.

SECTION-II

Answer any *three* questions from the following

5×3 = 15

- 2. Discuss the mechanism of EL Nino. 5
- 3. Write a note on the major rice growing states of India. 5
- 4. Divide India into different Agro-climatic regions. 5
- 5. Discuss the distribution of major tea growing areas of India. 5
- 6. Write a note on the major religious groups in India. 5

SECTION-III

Answer any *two* questions

10×2 = 20

- 7. Identify the major river systems of Northern India. Discuss the major characteristics of the Indus-Ganga-Brahmaputra plains. 3+7
- 8. Discuss the major climatic regions of India as proposed by Trewartha. 10
- 9. Account for the causes of uneven distribution of population in India. Trace the distribution of major tribes of India. 5+5
- 10. Discuss the role of Information Technology in Modern India. Give an account of the major IT hubs of India. 5+5

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UGEOMAJ24008-GEOGRAPHY
GEOGRAPHICAL INFORMATION SYSTEM

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

SECTION-I

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|------------------------------------|---------|
| 1. Answer the following questions: | 1×5 = 5 |
| (a) DBMS | 1 |
| (b) Spatial Data | 1 |
| (c) Digitisation | 1 |
| (d) TIN Data Structure | 1 |
| (e) Georeferencing | 1 |

SECTION-II

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| Answer any three questions from the following | 5×3 = 15 |
| 2. Distinguish between Raster and Vector Data Structure. | 5 |
| 3. Write a short note on Co-ordinate system. | 5 |
| 4. Explain the application of GIS in the Transport Planning. | 5 |
| 5. Write a short note on limitations of GIS. | 5 |
| 6. Discuss on the concept of Web-GIS. | 5 |

SECTION-III

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| Answer any two questions from the following | 10×2 = 20 |
| 7. Write about the components and advantages of DBMS. | 5+5 |
| 8. Define GIS. Write the components of GIS. | 2+8 |
| 9. Discuss the role of GIS in monitoring urban planning and tourism. | 5+5 |
| 10. Briefly describe the different types of data used in GIS. | 10 |

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