



সমান্যে মননং সমিতিঃ সমান্যে

UNIVERSITY OF NORTH BENGAL

PG 3rd Semester Examination, 2025

GEOGRAPHY AND APPLIED GEOGRAPHY

FLUVIAL GEOMORPHOLOGY

DSE: GEOGDET0301E

Time Allotted: 2 Hours

Full Marks: 42

The figures in the margin indicate full marks

SECTION-I

Answer any two questions

10×2 = 20

1. Describe the technique for construction of rating curve and mention its utility.
2. Classify fluids in terms of an open channel flow.
3. Describe the major changes of river course and evolution of drainage pattern of River Bhagirathi-Hooghly.
4. Describe the longitudinal profile of a river channel with suitable diagrams.

SECTION-II

Answer any two questions

7×2 = 14

5. Describe flow equation of Chezy with suitable diagrams.
6. State variation of hydraulic characteristics at a given cross section of a river. ✓
7. Write a note on applications of Remote sensing to the fluvial environment. ✓
8. Comment on the concept of 'constant of channel maintenance'.

SECTION-III

Answer all the questions

1×8 = 8

9. The formation of 'mudballs' in the Bhagirathi-Hooghly river is due to loss of velocity. True / False
10. Major Rennell's Atlas of 1740 / 1750 / 1770 / 1905 shows the old course of River Tista.
11. Summer pluvial maximum is a microthermal / mesothermal regime.
12. Manning's flow equation is $V = \frac{1}{n} R^{2/3} S^{1/2}$. True / False
13. Zemu / Siachen / Baltora / Pindari glacier is a part of Pahunri glacier.
14. Maurice Parde / W. M. Davis / L.C. King / Arthur Holmes first classified the term 'river regime'.
15. If $N_v > 500$, the flow type is laminar / turbulent.
16. At present, the Kosi river is shifting towards north / south / east / west.

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2/37
1/21/10/0.5



UNIVERSITY OF NORTH BENGAL
PG 3rd Semester Examination, 2025

GEOGRAPHY AND APPLIED GEOGRAPHY

URBAN GEOGRAPHY

DSE: GEOGDET0301J

Time Allotted: 2 Hours

Full Marks: 42

The figures in the margin indicate full marks

SECTION-I

Answer any two questions

10×2 = 20

1. Define suburbanisation. Discuss the characteristics of suburbanization.
2. Explain the concept of New town. Give a brief account of the development process of New town in India with suitable examples.
3. Evaluate the various urban environmental problems in India.
4. Give an account of the Bid Rent Theory to explain the variation in urban land values. Illustrate your answer with diagrams.

SECTION-II

Answer any two questions

7×2 = 14

5. Write a short note on the characteristics of CBD.
6. Discuss the major development programmes for urban poor in India.
7. Discuss the salient features of urbanization in India during the 21st century.
8. Give a critical account of the Double Invasion Succession Cycle given by Hoffmeyer and Zlotnik, 1977 to explain the process of gentrification.

SECTION-III

Answer all the questions

1×8 = 8

(Choose the correct answer / Fill in the blanks)

9. According to 2011 Census among the components of urban population growth in India, the maximum share is contributed by
 - (a) natural increase
 - (b) reclassification from rural to urban area
 - (c) rural to urban migration
 - (d) jurisdictional change

Turn Over

10. According to Harvey, circulation of capital takes place through _____ circuits.
(a) 2 (b) 3 (c) 4 (d) 5
11. Mann gave the urban land use model in the year _____.
(a) 1961 (b) 1962 (c) 1964 (d) 1965
12. HIDCO stands for _____.
13. The Smart Cities Mission was launched by the Ministry of Housing and Urban Affairs in the year _____.
(a) 2014 (b) 2015 (c) 2016 (d) 2017
14. Urban Governance Index focuses on the principles of Accountability, Participation, Effectiveness and _____.
(a) Equivalence (b) Exchangeability (c) Equality (d) Equity
15. Which of the following is a common consequence of gentrification?
(a) Decreased property value
(b) Increased displacement of low income residents
(c) Decline in local infrastructure
(d) Increase in number of industries
16. The secondary peaks of higher urban land values are consistent with the _____.
(a) Concentric Zone Theory (b) Multiple Nuclei Theory
(c) Sector Theory (d) Central Place Theory

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UNIVERSITY OF NORTH BENGAL

PG 3rd Semester Examination, 2025

GEOGRAPHY AND APPLIED GEOGRAPHY

GEOGRAPHY OF INDIA AND GEOGRAPHICAL THOUGHTS

CORE: GEOGCCT0301N

Time Allotted: 3 Hours

Full Marks: 75

The figures in the margin indicate full marks

SECTION-I

Answer all the questions

15 × 2 = 30

1. Define soil. Discuss the various soil types found in India.

OR

Describe the characteristics of seasonal climatic variations in India.

2. Critically analyse the System Approach in Geography.

OR

Explain critically the Scientific Explanation in Geography.

SECTION-II

Answer all the questions

7 $\frac{1}{2}$ × 2 = 15

3. Give an account of water resources in India.

OR

What are the various challenges faced by India in attaining food security? Explain.

4. Define dualism. Differentiate between Qualitative vs. Quantitative Geography.

OR

Make a comparative study between positivist approach and humanistic approach in Geography.

SECTION-III

Answer all the questions

5 × 4 = 20

Write short notes on the following

5. Importance of external trade for Indian economy

OR

Distribution of coal in India

6. Indus Water Treaty
OR
Second Green Revolution in India
7. Contemporary trends in Indian Geography
OR
Systematic vs. Regional Geography
8. Concept of absolute space in Geography
OR
Difference between place and space in Geography.

SECTION-IV

Answer all the questions

1 × 10 = 10

Choose the correct answer

9. Champion and Seth in 1968 classified Indian forests into _____ major groups.
(a) 3 (b) 4 (c) 5 (d) 6
10. Appiko Movement for forest conservation was started in _____.
(a) Uttarakhand (b) Karnataka (c) Kerala (d) Tamil Nadu
11. Globalisation of economy leads to _____.
(a) Increase in FDI (b) Technological advancement
(c) Global market access (d) All of these three
12. Cyclone Amphan was a super cyclone that developed in the year of May _____.
(a) 2018 (b) 2019 (c) 2020 (d) 2021
13. The idea of National interlinking of rivers was first suggested by _____, Chief Engineer of the Madras Presidency.
(a) Charles Philip Brown (b) Basil Blackwell
(c) Arthur Cotton (d) Dominic Cardy
14. Who among the following is an advocate of Idealism in Geography?
(a) Gilbert (b) Guelke (c) Pocock (d) Samuels
15. Who among the following was not associated with behavioural geography?
(a) Allan Pred (b) David Harvey
(c) Peter Gould (d) Walther Wolpert
16. Who is the author of the book, 'The Spatial Organization of Society (1974)'?
(a) B. J. L. Berry (b) Richard John Chorley
(c) Richard L. Morrill (d) Walter Isard
17. The first Geography Department in Asia was established in 1927 at _____.
(a) Allahabad University (b) Aligarh Muslim University
(c) Calcutta University (d) Delhi University
18. The concept of Mental Map was developed by _____.
(a) Downs (b) F. Perroux (c) Boulding (d) P. Gould

_____ × _____



UNIVERSITY OF NORTH BENGAL
PG 3rd Semester Examination, 2025

GEOGRAPHY AND APPLIED GEOGRAPHY

APPLIED PEDOLOGY

DSE: GEOGDET0301C

Time Allotted: 2 Hours

Full Marks: 42

The figures in the margin indicate full marks

SECTION-I

10×2 = 20

Answer any two questions

1. Describe pH scale and mention its utility.
2. Present the scheme of USDA soil taxonomy.
3. Explain the 'Catena' concept and its differentiation in different climates.
4. Discuss the different methods of assessment of soil degradation.

SECTION-II

7×2 = 14

Answer any two questions

5. Describe the factors influencing soil colour.
6. Write a note on soil types and land use practices.
7. Differentiate between soil erosivity and soil erodibility factors.
8. Write in brief the role of pesticides in soil pollution.

SECTION-III

1×8 = 8

Answer all questions
(Choose the correct answer)

9. Dokuchaev express the factors of soil formation: $s = f(p, m, c, b, a \text{ and } t/e/y)$.
10. $H\text{-soil} + KCl = K\text{-soil} / H\text{-soil} / Na\text{-soil} + HCl$.
11. $pH = \log \frac{OH^-}{H^+} / pH = \log \frac{1}{H} / pH = \log \frac{1}{[H^+]}$.
12. Soil density can be measured by Penetrometer / Pycnometer / Rapid moisture meter / Speedometer.
13. ATP stands for _____.
14. Ribulose is a plant protein highly needed for running of photosynthesis / respiration.
15. Calcium-Magnesium and Sulfer are the primary / secondary / tertiary nutrients.
16. Atleast half of the plant's dry tissue is composed of carbon / nitrogen / hydrogen / oxygen.

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PG THIRD SEMESTER EXAMINATIONS, 2025
DEPARTMENT OF GEOGRAPHY & APPLIED GEOGRAPHY
JALPAIGURI CAMPUS
UNIVERSITY OF NORTH BENGAL
GENERAL PRACTICAL
CODE: GEOGGEP0301A

Time: 4 hours

Full Marks: 75

Answer all the questions

1. Prepare a land use and land cover map based on given aerial photographs by using mirror stereoscope. 21
2. a. From the given DEM prepare the ruggedness and contour map with layout.
b. Discuss the different types of platforms in remote sensing.
c. Mention the application of remote sensing on forest management.
d. Distinguish between spatial and spectral resolutions in remote sensing. 6+2+2+2=12
3. Prepare a digital map from the given image using global mapper software. 11
4. a. The given data shows the marks obtained in mathematics by the students from two separate batches. Apply suitable statistical tools to determine which batch shows better performance in math exam. (Assume that data follows normal distribution). 18

Math Score Batch1	Math Score Batch2
39	62
76	68
67	77
58	72
58	72
67	88
77	97
49	65
52	71
58	71
89	79

- b. What are the assumptions of ANOVA? 4
5. Laboratory Note Book & Viva voce. 4+5=9

PG THIRD SEMESTER EXAMINATIONS, 2025
DEPARTMENT OF GEOGRAPHY & APPLIED GEOGRAPHY
UNIVERSITY OF NORTH BENGAL
GENERAL PRACTICAL
CODE: GEOGGE0301A

Time: 4 hours

Full Marks: 75

Answer all the questions

1. Prepare a land use and land cover map based on aerial photographs by using Mirror Stereoscope. 21

2. a. From the given DEM prepare the slope and slope aspect map with layout.
b. Discuss the different types of resolutions in remote sensing.
c. Mention the application of remote sensing on urban planning.
d. Distinguish between airborne and space borne platforms in remote sensing. 6+2+2+2=12

3. Prepare a digital map from the given image using global mapper software. 11

4. a. The given data shows the marks obtained in mathematics by the students from two separate batches. Apply suitable statistical tools to determine which batch shows better performance in math exam. (Assume that data follows normal distribution). 18

Math Score Batch1	Math Score Batch2
39	62
76	68
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58	72
58	72
67	88
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52	71
58	71
89	79

- b. Write the assumptions of linear regression. 4

5. Laboratory Note Book & Viva voce. 4+5=9