



COOCH BEHAR PANCHANAN BARMA UNIVERSITY
B.A. Honours 5th Semester Examinations, 2023

GEOGRAPHY

DSE-2

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.*

**The question paper contains CARTOGRAPHY and FLUVIAL GEOMORPHOLOGY.
The candidates are required to answer any one from two courses.
Candidates should mention it clearly on the Answer Book.**

CARTOGRAPHY

SECTION-I

Answer any one question from the following

15×1 = 15

1. Prove that the height of any parallel (ϕ) in Mercator projection is $10+2\frac{1}{2}+2\frac{1}{2} 2.3026R.\log.\tan\left(\frac{90^\circ+\phi}{2}\right)$. Write down the uses and limitations of the same projection. 15
2. Compare between Triangulation and Traversing. With the help of suitable diagram, find out the height of the top of an object (T) measured from the instrument stations A and B located 10 m apart when following readings have been recorded: 5+10

Instrument Station	Object Sighted	Face	Vertical Circle Reading		Remarks
			VC	VD	
A	T	Left	8° 30'	8° 40'	Station B is closer to the object Instrument heights are same-(1.40 m)
		Right	8° 40'	8° 40'	
B		Left	10° 14'	10° 20'	
		Right	10° 18'	10° 20'	

3. What are the differences between a Choropleth map and a Chorochromatic map? Attempt a classification of Choropleth maps and write down their various uses. 4+6+5

SECTION-II

Answer any *one* question from the following

10×1 = 10

4. Mention the different parts of a Transit Theodolite and discuss their functions. 10
5. Submit calculations and draw neat graticules for the given extension on Simple Conical Projection with II Standard Parallels 10
Extension : 20°S to 50°S, 15°W to 15°E
Interval : 5° and R. F. 1:125,000,000
6. Make a classification of choropleth maps. Explain in detail about the determination of accuracy level in Equal Step method of Choropleth mapping. 5+5

SECTION-III

Answer any *one* question from the following

5×1 = 5

7. Write a short note on Constant of Cone. 5
8. Discuss two sources of error in Theodolite Survey. $2\frac{1}{2} + 2\frac{1}{2}$
9. How to determine Class Interval in Nested Mean method of choropleth mapping? 5

SECTION-IV

10. Answer any *ten* questions from the following:

1×10 = 10

- (a) Define Benchmark.
- (b) Write the full form of UPS.
- (c) Name one example of an authalic projection.
- (d) Who had developed the first globe of the earth?
- (e) The rhumbline appears as _____ in Gnomonic projection.
- (f) _____ is an example of a Great Circle.
- (g) Write the full form of GTS.
- (h) What is Reduced Level?
- (i) Who was the first to develop Conical Equal Area Projection with I Standard parallel?
- (j) What is Levelling?
- (k) Why the Theodolite is called 'transit'?
- (l) Write the difference between azimuth and bearing.
- (m) Mention one merit of choropleth map.
- (n) Name one of the earliest proponents of Choropleth map.
- (o) Choropleth map is not suitable for _____ data.

FLUVIAL GEOMORPHOLOGY

SECTION-I

Answer any *one* question

1. Define river discharge. How discharge is related to the gauge height of river?
What are the major factors controlling the discharge of a river basin? 15×1 = 15
2+3+10
2. What are the different types of channel pattern? Discuss the development and characteristics of a Meandering channel pattern with suitable sketches. 12+3
3. What do you mean by Longitudinal and transverse profile of a river? Explain the nature and evolution of longitudinal profile of a river basin with suitable diagram. 5+10

SECTION-II

Answer any *one* question

4. Define hydraulic radius with formula. Explain the effect of channel shape on hydraulic efficiency with relevant diagram and related calculations. 10×1 = 10
2+8
5. What is river terrace? Discuss the process of formation of paired river terrace. 10
6. Briefly discuss the Characteristics and Morphology of Bird foot Delta. 10

SECTION-III

Answer any *one* question

7. Write a short note on Flood Plain with proper diagram. 5×1 = 5
5
8. Explain the major erosional processes of a river. 5
9. Briefly discuss the process of 'Valley Widening' in a river. 5

SECTION-IV

10. Answer any *ten* questions from the following: 1×10 = 10
- (a) What is river regime?
- (b) Give definition of 'Helical Flow' of a river.
- (c) What do you mean by Bed Load of a river?
- (d) Materials that rolled along the bed of the river are known as – solution load / traction load / competence / rising limb.
- (e) Give an example of Lacustrine Delta.
- (f) What is Plunge pool?

- (g) What is 'wetted perimeter' of a river channel?
- (h) Graph which is used to determine whether a river will erode, transport or deposit sediments is known as – Rating Curve / Isovel Curve / Hjulstrom Curve / Erosion Curve.
- (i) Define 'radius of curvature' of a meandering river channel.
- (j) Explain the relationship between drainage basin area and basin length.
- (k) Who is credited to postulate the concept of 'graded river'?
- (l) Alluvial fan is an example of _____ process of river.
- (m) What is 'Elongation Ratio'?
- (n) Valley deepening is active in _____ stages of fluvial cycle of erosion.
- (o) Define 'Sinuosity Index'.

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GEOGRAPHY

DSE-1

Time Allotted: 2 Hours

Full Marks: 40

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**The question paper contains DSE-A1 and DSE-A2.
The candidates are requested to answer any *one* from two courses.
Candidates should mention it clearly on the Answer Book.**

DSE: A1

URBAN GEOGRAPHY

SECTION-I

Answer any *one* question from the following

- | | | |
|----|---|-------------------|
| 1. | Discuss the Concentric Zone theory by E.W. Burgess to explain the Urban Morphology and evaluate the relevance of this model in present day context. | 15×1 = 15
10+5 |
| 2. | Define City Region. Discuss how city region acts as a functional economic space. | 3+12 |
| 3. | Discuss the scope of Urban Geography. Give a detail account on the history of urbanisation in India. | 5+10 |

SECTION-II

Answer any *one* question from the following

- | | | |
|----|---|-----------------|
| 4. | Compare the models of Rank-Size rule as propounded by G.K. Zipf and B.L. Berry. | 10×1 = 10
10 |
| 5. | Briefly discuss the functional classification of Indian urban centres. | 10 |
| 6. | Discuss about the concept of Satellite town with special reference to India. | 10 |

SECTION-III

Answer any *one* question from the following

- | | | |
|----|--|--------------|
| 7. | Briefly discuss the characteristics of Rural-Urban fringe. | 5×1 = 5
5 |
| 8. | What do you understand by Metropolitan Region? | 5 |
| 9. | Assess the environmental problems of Slums in India. | 5 |

SECTION-IV

1×10 = 10

10. Answer any *ten* questions from the following:
- What is CBD?
 - Give an example of Slum in West Bengal.
 - Who coined the term Megalopolis?
 - The word Ecumenopolis was coined by _____.
 - Define Urban Agglomeration.
 - What do you mean by Index of Urban primacy?
 - What is urban sprawl?
 - Write an example of Medieval city from India.
 - Define Commuter's Zone.
 - The idea of primate city was formulated by _____.
 - _____ is an example of Megacity in West Bengal.
 - The process of Counterurbanization was first observed during the early 1940s /1950s /1960s /1970s.
 - Give an example of 'religious town' in India.
 - The concept of 'Rural Urban Continuum' was put forward by Jean Gottmann / Robert Redfield / Carl O. Saur / Henri Pirenne.
 - UN projections say that by 2050, the Urban population of the world will be 61% / 62% /63% /68%.

DSE: A2

POPULATION GEOGRAPHY

SECTION-I

Answer any *one* question from the following

15×1 = 15

- Discuss the different types of Migration. Explain the theory of migration given by Ravenstein. 6+9
- Compare between Fertility and Fecundity. Describe the different determinants. 5+10
- What is Dependency Ratio? Write down the impacts of ageing population on the society and economy of a Country. 3+6+6

SECTION-II

Answer any *one* question from the following

10×1 = 10

- Discuss the Malthusian Theory of Population Growth. 10
- Describe the spatial pattern of population density regions of India. 10
- Discuss the salient features of India's ethnic composition. 10

SECTION-III

Answer any *one* question from the following

5×1 = 5

7. Distinguish between stable and stationary population. 5
8. Differentiate between Emigration and Immigration. 5
9. What is Total Fertility Rate? How is it calculated? 3+2

SECTION-IV

10. Answer any *ten* questions from the following:

1×10 = 10

- (a) What was the female literacy rate in India according to census 2011?
- (b) What is Step Migration?
- (c) Name two countries of the World showing the trend of negative growth of population.
- (d) What do you mean by over population?
- (e) Mention the full form of IMR.
- (f) When was the first census conducted in India after Independence?
- (g) What do you mean by Demographic Burden?
- (h) Define Dependency Ratio.
- (i) Mention one push factor of Migration.
- (j) What do you mean by CMR?
- (k) Name any one Indian Demographer.
- (l) What is fecundity?
- (m) According to Malthus the resource grows in _____ progression.
- (n) Mention two positive checks of population growth.
- (o) What is the share of ST Population in India according to census 2011?



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GEOGRAPHY

REGIONAL PLANNING AND TRANSPORT GEOGRAPHY

CORE-11

Time Allotted: 2 Hours

Full Marks: 40

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GROUP-A

Answer any *one* question from the following

15×1 = 15

1. Discuss the various schemes of Economic Regionalization of India. 15
2. Discuss the "Models of Transportation" after Vance with suitable sketches. 15
3. Discuss the problems of rural transportation with examples from India. 15

GROUP-B

Answer any *one* question from the following

10×1 = 10

4. Compare and contrast between Formal and Functional Regions. 10
5. Discuss the nature and scope of transport geography. 10
6. What do you mean by the hierarchy of The Planning Regions? Write briefly about the same. 3+7

GROUP-C

Answer any *one* question from the following

5×1 = 5

7. Write salient features of Micro Regions. 5
8. Mention the different factors of transport development. 5
9. Differentiate between planning and non-planner graph. 5

GROUP-D

1×10 = 10

10. Answer any *ten* questions from the following:
- (a) Give an example of a Macro Region.
 - (b) The range of Gamma Index is between _____.
 - (c) What is community development planning?
 - (d) What is social planning?
 - (e) Give an example of Micro-Region.
 - (f) Cyclomatic Number is used to assess _____.
 - (g) In which year the NITI AAYOG was formed?
 - (h) Define Edge.
 - (i) What is the full form of ATS?
 - (j) What do you mean by 'Homogeneity' of a region?
 - (k) What is ad hoc region?
 - (l) Define Branch.
 - (m) Who has given the 'Mercantile Model' of Transport Network?
 - (n) What is Plan Holiday?
 - (o) Regional planning is a type of _____ level planning.

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