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FYUGP/5th Sem/Pr/250(NEP)  
2025

Four Year Under Graduate Programme (FYUGP)  
5th Semester Examination (Under NEP)  
(Session 2023-24)

**GEOGRAPHY (Major)**

Paper Code : GEOMJ MC-10

[Quantitative Techniques in Geography]

(Practical)

Set - 1

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Full Marks : 20

Time : Two Hours

*The figures in the margin indicate full marks.*

*Answer all the questions.*

1. (a) Find arithmetic mean of the following data : 3

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Class interval	50-59	40-49	30-39	20-29	10-19	0-9
Frequency	4	5	8	10	20	6

(b) Calculate standard deviation from the following data : 2

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Marks	10	20	30	40	50
No. of Students	2	3	2	2	1

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2. Find the regression equations from the following data.  
Plot it graphically : 4+3

Age of Husband (x)	18	19	20	21	22	23	24	25	26	27
Age of Wife (y)	17	17	18	19	19	20	21	21	20	20

3. (a) Two coins are tossed simultaneously. List the sample space. 1
- (b) In a factory of 364 workers, 91 are married. Find the probability of selecting a worker who is not married. 1
- (c) A bag contains 3 red and 7 black balls. What is the probability of drawing a red ball? 1
- (d) In a survey of 150 college students : 85 use WhatsApp, 70 use Instagram, and 45 use both platforms. Represent the event in a Venn diagram. 1
4. Laboratory Notebook and Viva-voce. 2+2

$a = 7.33$

$b = 0.846$

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**GEOGRAPHY (Major)**

Paper Code : GEOMJ MC-11

[Economic and Political Geography]

(Practical)

Set - I

Full Marks : 20

Time : Two Hours

*The figures in the margin indicate full marks.*

Answer all the questions.

1. (a) Compute the agricultural productivity of the selected states of India using Kendall's Ranking Coefficient and interpret it.

States	Yield in Kilogram per Hectare			
	Rice	Wheat	Bajra	Maize
Uttar Pradesh	2772	3708	2173	2417
Madhya Pradesh	2080	3012	2586	2812
Panjab	4516	5045	976	4299
Rajasthan	2588	3540	1033	2464

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REGISTRATION NUMBER :- 251-1112-0613-23

OF REGISTRATION :- 2023-2024



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States	Yield in Kilogram per Hectare			
	Rice	Wheat	Bajra	Maize
Bihar	2541	3150	1139	6975
Telangana	3602	2017	3373	5678
West Bengal	3064	3130	410	6633
Haryana	3766	4723	2200	2951
Maharashtra	2368	1899	608	1847
Karnataka	2986	1235	1217	2855
Gujarat	2259	3132	2600	1848

Source: Agricultural statistics of India, 2024

(b) Determine the Democracy Index of the country New Zealand with the help of given data and interpret it.

Democracy	Domain score
Electoral Process and Pluralism	10
Functioning of Government	9.29
Political Participation	10
Political Culture	8.75
Civil Liberties	10

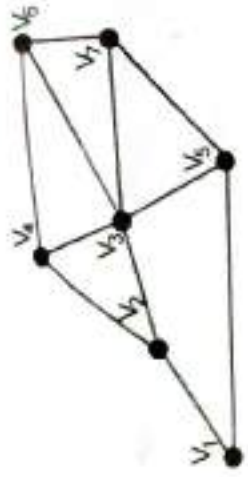
Source : Democracy Index data, 2024

2. Measure the degree of Network connectivity using Shumble Index (S.I) and interpret it. 4+1

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3. Calculate the World Happiness Index (WHI) of the country Japan with the help of given data and interpret it 3+1

Factors	Co-efficient Value	Dystopia Value	Japan
Log GDP per capita	0.328	6.643	11.76
Social support	2.686	0	0.58
Healthy life expectancy	0.032	46.5	75.28
Freedom to make life choices	1.518	0	0.49
Generosity	0.382	-0.297	-0.26
Perceptions of corruption	-0.669	1	0.70
Dystopia + residual	—	—	1.038

Source : World Happiness Report, 2025

2+2=4

4. Laboratory Notebook and Viva-voce.

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**GEOGRAPHY (Major)**

Paper Code : GEOMJ MC-08

[Social and Cultural Geography]  
(Practical)

Set - 2

Full Marks : 20

Time : Two Hours

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*The figures in the margin indicate full marks.*

Answer all the questions.

1. (a) Measure the dissimilarity index to show Asian-White Residential Segregation in the New York City Boroughs (2020)

Borough	Asian Population	White Population	Total Population
Manhattan	219,624	793,294	1,012,918
Brooklyn	370,776	968,427	1,339,203
Queens	656,583	549,358	1,205,941
Bronx	67,766	130,796	1,983,762
Staten Island	58,753	277,981	336,734

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(b) HPI-2 Datasets from UNDP reports

Country	P1(%)	P2(%)	P3(%)	P4(%)
Sweden	6.7	7.5	1.1	6.5
Finland	9.4	10.4	1.8	5.4

P1 : Probability at birth of not surviving to age 60 (%);

P2 : Adults lacking functional literacy skills (%);

P3 : Long-term unemployment rate (%); P4 : Population below income poverty line (%).

Measure Human Poverty Index of the given countries.

2. Represent the following data with Bar Graph. 4

District of Meghalaya	Total Bengali Speakers
West Garo Hills	1,60,224
East Khasi Hills	56,370
West Khasi Hills	4,951
South Garo Hills	3,867
East Garo Hills	3,091
Jaintia Hills	2,068
Ri Bhoi (Ribhoi)	1,954

3. Prepare a questionnaire to evaluate housing conditions and types of dwelling units in an urban neighbourhood. 5

4. Laboratory Notebook and Viva-voce. 2+2

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**GEOGRAPHY (Major)**

Paper Code : GEOMJ MC-09

[Fundamentals of Surveying and Mapping]  
(Practical)

Set - 2

Full Marks : 20

Time : Two Hours

*The figures in the margin indicate full marks.*

Answer all the questions.

[Q. No. 1 will be decided through lottery]

[maximum allotted time for each instrument-20 minutes]

- ① Take staff reading of the given 8 stations with at least one change point (at given interval) by a Dumpy level and prepare a field book (Rise and Fall Method) with first RL 50 metres. Plot the profile with suitable scale.

4+3

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Or

Determine the height of a given object with the help of Transit Theodolite (Base Inaccessible with same vertical plan and same instrument height). Prepare a table and plot with suitable scale. 5+2

Or

Make a Close Traverse Survey by Prismatic Compass of the given station PQRS (parallelmeridian method) and plot it with necessary correction. 4+3

Or

Transfer the given objects on the given sheet (paper) from the ground using Plane Table (intersection method) with suitable scale. [the number of objects should be 4 and will be decided by the examiner(s)] 7



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2. Draw the graticules of Polar Zenithal Stereographic Projection for northern hemisphere up  $50^\circ$  latitude at an interval of  $10^\circ$  on a scale of 1 : 60000000. 5
3. The following data represent district wise literacy rate of Himachal Pradesh in 2011. Prepare a thematic map on the given map using Choropleth technique. 4

Sl. No.	District	Literacy rate
1	Kangra	85.67% ✓
2	Mandi	81.53% ✓
2	Shimla	83.64% ✓
4	Solan	83.68% ✓
5	Sirmaur	78.80% ✓
6	Una	86.53% ✓
7	Chamba	72.17% ✓
8	Harnipur	88.15%
9	Kulu	79.40% ✓
10	Bilaspur	84.59% ✓
11	Kinnaur	80.00% ✓
12	Lahul and Spiti	76.81% ✓

4. Laboratory Note Book and Viva-voce. 2+2

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