

Ph.D. GEOGRAPHY
Term-End Examination
December, 2015

00124

RGG-003 : RESEARCH TECHNIQUES I (QUANTITATIVE)

Time : 2 hours

Maximum Marks : 50

Note : Attempt any **two** questions each from Sections I and II. Attempt any **four** questions from Section III.

SECTION I

*Write your answer on any **two** of the following questions (10 marks for each and not exceeding 300 words).*

1. Explain the types of scales with suitable examples elaborating the problems of measurements one faces in geographical research. 10
2. Construct a Composite Index from the data given in Table-1, using Ranking Method and explain the procedure followed. 10
3. Write a note on types and selection of indicators for constructing development index with examples, explaining the importance of construction of a Composite Index. 10
4. Explain the importance of sampling and types of sampling techniques, with suitable examples. 10

SECTION II

5. Write short notes on any *two* of the following questions (5 marks each) :

- (a) Explain the measures of Central tendency. 5
- (b) Discuss the various methods of data standardisation. 5
- (c) What is Nearest Neighbour Analysis ? Explain in brief with formula and interpretation. 5
- (d) Explain the use of computers in data analysis. 5

SECTION III

6. Attempt any *four* of the following questions (5 marks each) :

- (a) Compute Range, tabulate into five equal class-intervals for the literacy rates given in Table-1 (Page 3). 5
- (b) Compute Coefficient of Variation for the literacy rates given in Table-1 (Page 3). 5
- (c) Explain Gini's Concentration Ratio. 5
- (d) Compute the population size based on Rank Size Rule for cities given in Table-2 (Page 4). 5
- (e) Explain the method of functional classification based on Ternary Diagram. 5
- (f) Show the graphical representation of frequency distribution by Histogram and Frequency Polygon on data given in Table-3 (Page 4). 5

Table-1
Statewise Development Indicators, 2011

S. No.	State	Per Capita Income	Literacy	Vaccination of Children	Per sq. km Surfaced Road Length in km
1.	A & N Islands	80588	86.63	95.0	0.14
2.	Andhra Pradesh	60703	67.66	49.6	0.57
3.	Arunachal Pradesh	61002	66.95	19.1	0.17
4.	Assam	33348	73.18	37.0	0.48
5.	Bihar	19205	63.82	39.8	0.61
6.	Chandigarh	130763	86.77	100.0	20.04
7.	Chhattisgarh	40166	71.04	54.0	0.47
8.	Delhi	148608	86.34	63.6	14.13
9.	Goa	164962	87.40	59.3	2.03
10.	Gujarat	78802	79.31	55.2	0.72
11.	Haryana	94798	76.64	74.8	0.85
12.	Himachal Pradesh	67475	83.78	73.0	0.60
13.	Jammu & Kashmir	40752	68.74	78.0	0.06
14.	Jharkhand	34721	67.63	51.1	0.21
15.	Karnataka	62251	75.60	63.4	0.93
16.	Kerala	69465	93.91	79.7	2.84
17.	Madhya Pradesh	32223	70.63	48.9	0.39
18.	Maharashtra	83395	82.91	65.1	1.10
19.	Manipur	29281	79.85	100.0	0.36
20.	Meghalaya	48690	75.48	82.8	0.32
21.	Mizoram	48591	91.58	75.4	0.33
22.	Nagaland	53635	80.11	78.0	0.93
23.	Odisha	38878	73.45	59.1	0.38
24.	Puducherry	101072	85.85	100.0	5.02
25.	Punjab	69580	76.68	67.9	1.52
26.	Rajasthan	44709	67.06	31.9	0.57
27.	Sikkim	108972	82.20	100.0	0.58
28.	Tamil Nadu	78473	80.33	86.7	1.22
29.	Tripura	45087	87.75	69.4	1.35
30.	Uttar Pradesh	26692	69.72	29.9	1.24
31.	Uttarakhand	73815	79.63	63.6	0.50
32.	West Bengal	47389	77.08	67.4	1.30

Table-2
Population of Ten Cities of India

S. No.	City	Population
1.	Mumbai	18,394,912
2.	Delhi	16,349,831
3.	Kolkata	14,035,959
4.	Chennai	8,653,521
5.	Bangalore	8,520,435
6.	Hyderabad	7,674,689
7.	Ahmedabad	6,361,084
8.	Pune	5,057,709
9.	Surat	4,591,246
10.	Kanpur	2,920,496

Table-3
Rainfall Distribution of 60 Days

Rainfall in mm	No. of Days
5 – 10	2
10 – 15	4
15 – 20	5
20 – 25	10
25 – 30	15
30 – 35	18
35 – 40	6
Total	60