

B.Sc. 3rd Semester (Honours) Examination, 2023-24

**GEOGRAPHY**

Course ID : 31923

Course Code : SH-GEO-303/C-7

Course Title : Statistical Method in Geography (Practical)  
(Old Syllabus)

**SET-II**

Time : 3 Hours

Full Marks : 40

*The figures in the right-hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

Answer **all** the questions.

1. Calculate mean, median and mode from the table 1. Also calculate coefficient of variation from the given dataset. 2+2+2+4=10

**Table-1**

Rainfall (mm)	Frequency (Days)
51-70	9
71-90	13
91-110	17
111-130	29
131-170	31
171-210	18
211-230	11
231-250	6

$\bar{x} = \frac{\sum fx}{N}$   
Arithmetic mean =  $\frac{\sum fx}{N}$   
 $= \frac{4002}{10}$   
 $= 40.2$   
 $\therefore$  standard deviation =  $\sqrt{\frac{\sum f(x-\bar{x})^2}{N}}$   
 $= \sqrt{\frac{17296}{10}}$   
 $= 13.15$

2. Based on the table-2 calculate the trend using three-year moving average and construct it. Interpret the nature of trend observed in the dataset. 4+4+2=10

Table-2

Year	1997-98	1998-99	1999-2000	2000-01	2001-02
Production of fertiliser in lakh tons	130.62	136.21	142.98	147.04	146.28

Year	2002-03	2003-04	2004-05	2005-06
Production of fertiliser in lakh tons	144.74	142.66	154.05	155.73

3. With the help of data given in the table-3 construct a Histogram, frequency polygon and ogive using MS Excel. Also calculate Standard Deviation using MS Excel. 2+2+2+4=10

Table-3

Population Density (in sq. km)	0-100	100-200	200-300	300-400	400-500	500-600
Frequency	3	8	5	11	9	4

4. Laboratory Notebook and Viva voce. 5+5=10

table 2.

$$\frac{x - \bar{x} - \pi}{(\pi)^2}$$

$$\text{Arithmetic mean} = \frac{\sum x}{N}$$

$$= \frac{472}{10}$$

$$\therefore \text{standard deviation} = 47.2$$

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Answer all the questions.

1. Table-1: The score of Virat Kohli and Rohit Sharma in ten consecutive innings are noted below. Based on given dataset find out which batsman is more consistent and why? 7+3

Table-1

Innings No.	Score of Virat	Score of Rohit
	Kohli	Sharma
1	35	100
2	42	21
3	39	50

$$\sqrt{\frac{\sum (x - \bar{x})^2}{N}}$$

$$= \sqrt{\frac{14103.6}{10}}$$

$$= \sqrt{1410.36} = 37.55$$

Score of Virat & Rohit  
[Turn Over]  
coefficient variation =  $\frac{SD}{\text{Mean}}$   
=  $\frac{13.15}{100}$   
= 0.1315

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(4)

4	21	100
5	55	0
6	65	10
7	22	20
8	32	100
9	41	21
10	50	50

2. Based on the table-2 draw a trend line by Semi-average method and interpret the same. What are the advantages of semi average method?

**Table-2**

Year	1996	1997	1998	1999	2000	2001
Productions (tons)	65	72	69	74	85	88

10

3. What is hypothesis? A group of 5 patients treated with medicine. A is of weight 42,39,38,60 and 41kgs. Second group of 7 patients from the same hospital treated with medicine B is of weight 38, 42, 56, 64, 68, 69, & 62 kgs. Find whether there is any difference between medicines. 2+8=10
4. Laboratory Notebook and Viva voce 5+5=10

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$$\begin{aligned}
 & \text{Coeff. of variation} \\
 & = \frac{SD}{\text{mean}} \times 100 \\
 & = \frac{37.55}{47.2} \times 100 \\
 & = 79.56
 \end{aligned}$$