

Pabna Cadet College
First Fortnightly Examination - 2021
Subject: Statistics
Class: XI

Time: 40 minutes

Full Marks: 20

Answer all the question.

1. Information about Marks of students of two classes are

| Class | No. of Students | \bar{X} | σ |
|-------|-----------------|-----------|----------|
| XI | 51 | 82 | 2 |
| XII | 52 | 86 | 5 |

- a. What is a measure of dispersion? 1
- b. When do we get the least possible value of variance? Explain in short. 2
- c. Estimate the combined standard deviation of the marks. 3
- d. Which class performed better? Justify mathematically. 4

2. Answer concisely

- a. If the unit of mean is cm, what is the unit of standard deviation? 1
- b. If $n = 10$, $\sum x_i = 110$, and $\sum x_i^2 = 1400$, find C.V. 3
- c. Find σ of -3, 0, 3. 1
- d. Find the C.V. of the series: $1, 3, 5, \dots, (2n - 1)$ 5

Solution

1.
 - a. A measure of dispersion is a measures how values of a dataset vary within themselves.
 - b. When all observations are same. See more
 - c. Combined Standard Deviation

$$n_1 = 51, n_2 = 52 \quad \bar{X}_1 = 82, \bar{X}_2 = 86 \quad \sigma_1 = 2, \sigma_2 = 5$$

—Good Luck—