

SUCCESS KEY TEST SERIES

Work Sheet

Std: 11th Science

Subject: Mathematics & Statistics

Time: 1Hrs

Date :

8. Measures of Dispersion

Max Marks: 40

Q.1 Select and write the most appropriate answers from given alternatives: **10**

- 1) The first group has 100 items with a mean 45 and variance 36. If the combined group has 250 items with mean 65 and variance 225.3, find the mean and standard deviation of 2ndgroup.
(a) 10 (b) 12 (c) 13 (d) 14
- 2) If the observations of a variable X are, -4, -20, -30, -44 and -36, then the value of the range will be:
(a) -48 (b) 40 (c) -40 (d) 48
- 3) Standard deviation of data is 12 and mean is 72 then coefficient of variation is
(a) 13.67% (b) 16.67% (c) 14.67% (d) 15.67%
- 4) Given the heights (in cm) of two groups of students:
Group A : 131 cm, 150 cm, 147 cm, 138 cm, 144 cm
Group B : 139 cm, 148 cm, 132 cm, 151 cm, 140 cm
Which of the following is / are the true?
(I) The ranges of the heights of the two groups of students are the same.
(II) The means of the heights of the two groups of students are the same.
(a) I only (b) II only (c) Both I and II (d) None
- 5) Calculate combined standard deviation of the following data

Sr	N	Mean	SD
1	34	43	6
2	44	54	7

- (a) 7.549 (b) 3.445 (c) 8.549 (d) None of these

Q.2 Solve the following: **5**

- 1) Find the coefficient of variation of a sample which has mean equal to 25 and standard deviation of 5.
- 2) Find range of the following data: 19, 27, 15, 21, 33, 45, 7, 12, 20, 26
- 3) The following data gives number of typing mistakes done by Radha during a week. Find the range of the data.

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No. of mistake	15	20	21	12	17	10

- 4) Given below is the information about marks obtained in Mathematics and Statistics by 100 students in a class. Which subject shows the highest variability in marks?

	Mathematics	Statistics
Mean	20	25
S.D.	0	3

- 5) Following data gives weights of 10 students (in kgs) in a certain school. Find the range of the data.
70, 62, 38, 55, 43, 73, 36, 58, 65, 47

Q.3 Answer the following:**10**

- 1) Find variance and S.D. for the following set of numbers.
65,77,81,98,100, 80,129
- 2) A group of 65 students of class XI have their average height is 150.4 cm with coefficient of variance 2.5%. What is the standard deviation of their height?
- 3) Find range for the following data.

Classes	62-64	64-66	66-68	68-70	70-72	
Frequency	5	3	4	5	3	

- 4) Find the range of the following data

Classes	115-125	125-135	135-145	145-155	155-165	165-175
Frequency	1	4	6	1	3	5

- 5) A company has two departments with 42 and 60 employees respectively. Their average weekly wages are Rs. 750 and Rs. 400. The standard deviations are 8 and 10 respectively.
 - (i) Which department has a larger bill?
 - (ii) Which department has larger variability in wages?

Q.4 Solve the following:**15**

- 1) Compute variance and standard deviation of the following data observations. 9,12,15,18,21,24,27
- 2) Calculate S.D. from following data

Age (In yrs)	20-29	30-39	40-49	50-59	60-69	70-79	80-89
Freq.	65	100	55	87	42	38	13

- 3) Following data relates to the distribution of weights of 100 boys and 80 girls in a school

	Boys	girls
Mean	60	47
Variance	16	9

Which of the two is more variable?

- 4) Compute variance and standard deviation for the following data:

x	15	20	25	30	35	40	45
f	13	12	15	18	17	10	15

- 5) Compute variance and standard deviation for the following data:

X	2	4	6	8	10	12	14	16	18	20
F	8	10	10	7	6	4	3	4	2	6

----- All the Best -----