

DRAWING OF RANDOM SAMPLES

- ✓1. Draw a random sample of 5 villages from a group of 337 villages of West Bengal by (i) SRSWR, (ii) SRSWOR.
- ✓2. Following is a distribution of students in the five classes of a school:

CLASS	STUDENT STRENGTH
I	45
II	32
III	27
IV	35
V	19

Draw a random sample of 10 students from the school.

- ✓3. Draw a random sample of 7 days from a given leap year.
- ✓4. For a Honours class of 16 students, the marks attained in paper I of Hons. Subject are: 67,52,84,59,30,80,67,72,55,48,59,80,39,67,82,52.
Select a random sample of 5 students from the Class.
 - (i) Estimate the average marks.
 - (ii) Find the relative standard error and an estimate of it.

5. Following table gives the scores of 45 students in an examination :

38	27	19	51	42	20	30	26	22
14	24	30	02	26	26	12	43	11
10	13	35	27	06	34	40	24	37
40	24	37	30	42	22	21	15	23
20	40	26	48	15	02	12	19	33

Draw a random sample of size 15 students (a) with replacement and (b) without Replacement. In each case, find an estimate of the standard error of the sample mean.

6. Draw a random sample of size 8 from 231 iron balls having distribution of weight (in m.g.) as detailed below :

Weight (m.g.)	25.8	25.9	26.0	26.1	26.2	Total
Frequency	45	49	67	42	28	231

- ✓7. Locate 7 random points in a rectangular area of size x square meter.
[Use coordinates correct to cm.]
- ✓8. Plot 5 random points inside a circle of radius 50 cm. (coordinates are to be correct up to two places of decimals .)

Contd. ... 2

9. Draw a random sample of 10 from the students for whom the following frequency distribution of marks in Mathematics and Statistics have been obtained :

Marks in Statistics	Marks in Mathematics					
	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90 - 100
30 - 40	6	2	-	-	-	-
40 - 50	4	8	4	2	-	-
50 - 60	20	24	36	12	6	2
60 - 70	7	28	26	24	8	3
70 - 80	-	8	16	20	6	6

- ✓10. Draw a random sample of size ... from a binomial ($m =$, $p =$) distribution .
- ✓11. Draw a random sample of size from a Poisson ($\lambda =$)-distribution .
- ✓12. Select a random sample of size 10 from a $N(\mu =$, $\sigma =$)-distribution .
13. Insert 9 random points (co-ordinates in cm.) within the area bounded by the inequality $0.25x^2 + 0.04y^2 < 1$, both x and y being measured in meters.
- ✓14. Select 10 random point below the depth of 1 meter of a hemispherical pond of diameter 100 meter.

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