

Model Paper for Class 11TH (Statistics), 2018

Maximum Marks: 70

Time allowed (03 hours)

General Instructions:

- All questions are compulsory
- The question paper contains 26 questions.
- Questions 1-5 in section- A are Objective type questions carrying 01 mark each.
- Questions 6-10 in section-B are very short answer type-I, carrying 02 marks each.
- Questions 11-22 in section-C are very short answer type-II, carrying 03 marks each.
- Question 23 in section-D is a short answer type question, carrying 04 marks.
- Questions 24-26 in section-E are Long answer type questions, carrying 05 marks each.

Section-A:

Objective Type Questions

(Note: - Each question carries 01 Marks: 05 x 01=05)

- Q01. *Graphs and charts facilitate*
- | | |
|--------------------------|-----------------------|
| (a) Comparison of values | (b) To know the trend |
| (c) To know relationship | (d) All the above |
- Q02. *If a constant 5 is subtracted from each observation of a set, the mean of the set is*
- | | |
|---------------------|--------------------|
| (a) Increased by 5 | (b) decreased by 5 |
| (c) is not affected | (d) Zero |
- Q03. *The percentage of values lies between 5th and 25th percentiles.*
- | | |
|---------|------------------------|
| (a) 15% | (b) 30% |
| (c) 75% | (d) None of the above. |
- Q04. *Which of the following is a unitless measure of Dispersion?*
- | | |
|------------------------|-------------------------------|
| (a) Standard Deviation | (b) Range |
| (c) Variance | (d) Coefficient of variation. |
- Q05. *In case of positively skewed distribution, the extreme values lie in*
- | | |
|---------------|----------------|
| (a) Left tail | (b) Right tail |
| (c) Middle | (d) Any where |

Section-B:

Very Short Type Questions (I)

(Note: - Each question carries 02 Marks 05 x 02 = 10)

Q06. Can there be more than one Mode of a distribution?

OR

Write two functions of averages.

Q07. Define Quartiles.

Q08. What are the different uses of Dispersion?

Q09. Define Correlation coefficient.

Q10. Explain Linear and Non-linear Correlation using scatter diagram.

Section-C:

Very Short Type Questions (II)

(Note: - Each question carries 03 Marks 12 x 03 = 36)

Q11. Define Statistics as given by Sir R.A. Fisher.

OR

Enunciate the law of statistical Regularity.

Q12. Give three limitations of Statistics.

Q13. What are the requisites of a reliable data?

Q14. Differentiate between Primary and Secondary types of Data.

Q15. Give three advantages of diagrammatic representation of data.

Q16. What do you understand by Bar diagram and a Sub-divided Bar diagram?

Q17. Write different uses and importance of moments.

Q18. Give the relation of first four central moments with the raw moments.

Q19. What is the purpose of measuring Skewness & kurtosis?

Q20. For a moderately Skewed distribution, what relation between Mean, Median and Mode exists? How to ascertain Kurtosis with the help of β_2 ?

Q21. Write a short note on Functional Components of a Computer.

Q22. Construct a flow Chart for calculation of Arithmetic Mean.

Section-D:

Short Answer Type Questions

(Note: - This question carries 04 Marks 01 x 04=04)

Q23. What do you understand by the term "correlation" What are different Methods used for calculation of Correlation co- efficient?

OR

Find the correlation co- efficient between size and defects in quality from the following data:

Group Size	No of items	No. Of Defective items
13-16	200	150
16-17	270	162
17-18	340	170
18-19	360	180
19-20	400	180
20-21	300	114

04 x 01 = 04

Section-E:

Long Answer Type Question

(Note: - Each question carries 05 Marks: 03 x 05=15)

Q24. What are the Characteristics of an Idle Measure of central tendency? Prove that sum of deviations taken from mean is zero.

OR

From the following data relating to wages & workers in a factory, find the modal wage.

Wages (Rs): 120 140 200 250 270 300

No of Workers: 05 20 25 23 26 15

05 x 01 = 05

Q25. Give the concept of partition values, other than Median. How to determine Quartiles, Deciles & Percentiles in a case of a discrete series?

OR

Calculate the lower & upper Quartiles, third deciles and 20th Percentile from the following data.

Central Value: - 2.5 7.5 12.5 17.5 22.5

Frequency: - 07 18 25 30 20

05 x 01 = 05

Q26. Show that variance & consequently S.D. is independent of change of origin, but not of scale.

OR

The mean of two samples of sizes 50 & 100 respectively are 54.1 and 50.3 & their respective S.D's are 08 & 07 obtain the S.D of the sample obtained by combining the two samples.

05 x 01 = 05