Q. P. Code: 24588

DURATION: 3 HOURS

MARKS :100

N.B.: 1 All questions are compulsory.
2 Use of simple calculator is allowed.

Q.1 **(a)** **Correct the following if necessary.** 10
(1) Economic Status of Families is an example of ordinal scale of measurement. 02
(2) Data from Economic & Political weekly is primary data. 02
(3) Rainfall for the state of Maharashtra represents a discrete random variable. 02
(4) Skewness is departure from symmetry. 02
(5) Standard deviation is not affected by shift of origin and change in scale. 02

(b) **Answer in one sentence.** 10
(1) Define Qualitative and Quantitative data. 02
(2) Explain briefly SRSWOR. 02
(3) Define r^{th} raw and central moment. 02
(4) Explain Kurtosis for a frequency curve. 02
(5) State the formula for D_8 and P_{89}. 02

Q.2 **Attempt any Two** 20
(1) (A)Distinguish between primary and secondary data. 05
(B) Explain Time series and Geographical data with example. 05
(2) (A) Bring out the difference between Questionnaire and schedule. 05
(B) Describe dichotomous classification for two attributes. 05
(3) (A) Explain the methods of collecting secondary data 05
(B) An eatery in Chennai is visited by both college students and employed males 05
and females for dosa or idli. On a particular day 1800 customers visited the
restaurant, 50 % of them being males and 800 having dosa. 200 male students
had dosa while two-third males had idli of which 300 were employed males. 250
female students had dosa and 200 employed females had idli. Tabulate the above
information.
(4) (A) Derive the relation between Yule's coefficient of Association and coefficient 05
of colligation.
(B) Discuss the key features in constructing a questionnaire. 05

Q.3 **Attempt any Two** 20
(1) (A) Explain the concept of Measures of Central Tendency and different measures 05
of central tendency.
(B) Explain the effect of change of origin and scale on Arithmetic mean 05
(2) (A) Explain Graphical representation of data with suitable illustration. 05

(B) Draw a frequency polygon for the following data: 05

Sales	0-10	10-20	20-30	30-40	40-50
No. of days	9	18	35	27	11

9C038EE614896F8B498AFED518FB01EC

(3) (A) Explain weighted and combined Arithmetic mean.   05
     (B) Write merits and demerits of Median.   05

(4) (A) Describe the applications of measures of central tendency   05
     (B) Define Mode. Explain how to calculate mode for grouped and ungrouped
         data.   05

Q.4   **Attempt any Two**   20
(1) (A) State the requisites of a good measure of Dispersion.   05
     (B) Discuss the Relative measures of Dispersion you have studied.   05
(2) (A) Obtain the relationship between the first four Raw and Central Moments   05
     (B) Define Mean Absolute deviation and Quartile deviation.   05
(3) (A) Distinguish between positively and negatively skewed distribution.   05
     (B) Describe the relative measures of Skewness.   05
(4) (A) Illustrate the different types of Kurtosis for a frequency curve.   05
     (B) Discuss the properties of Standard deviation.   05

Q.5   **Attempt any Four**   20
(1) Differentiate between discrete & continuous random variables.   05
(2) State the four scales of measurement used in data analysis and explain any one.   05
(3) Define Geometric mean and Harmonic mean.   05
(4) Write a short note on Quantiles.   05
(5) State merits and demerits of Mode.   05
(6) Bring out the significance of the study of Dispersion of data.   05
(7) With reference to graphical display explain the Box plot.   05

****