



Date:

Registration number:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27
B.Sc. STATISTICS – IV SEMESTER (OPEN ELECTIVE)
SEMESTER EXAMINATION: APRIL 2022
 (Examination conducted in July 2022)

STOE – 418: FIRST COURSE IN STATISTICS

Time: 1 ½ Hours

Max: 35 Marks

*This question paper contains **ONE** printed page and **Three** parts*

Note: Scientific calculators are allowed.

Graphs will be provided on request

PART A

I Answer any FIVE from the following 2 x 5 = 10

1. Mention any two applications of statistics in the field of Economics and Business.
2. Define variable and attribute with an example for each.
3. Differentiate between ratio and interval scale with an example for each.
4. Define equally likely and mutually exclusive events with an example for each.
5. Define Arithmetic mean. Give its merits and demerits.
6. Define coefficient of variation. State its significance.
7. Define primary and secondary data with an example for each.

PART B

II Answer any THREE from the following 5 x 3 = 15

8. Distinguish between census survey and sample survey. Discuss the merits and demerits of it.
9. A) State the classical definition of probability. (2)
 B) Define the following terms in probability:
 (i) Random experiment (ii) Sample space (iii) Sure event (3)
10. For the following data, draw the Histogram and hence find Mode.

Weekly Wages (in Rs.)	10-15	15-20	20-25	25-30	30-40	40-60	60-80
No. of Workers.	7	19	27	15	12	12	8

11. Define Range and Standard deviation for grouped data. List out any three properties of standard deviation.
12. Twelve students obtained the following marks in Statistics and Economics.

Students	1	2	3	4	5	6	7	8	9	10	11	12
Statistics	61	34	40	50	45	41	22	43	42	66	64	46
Economics	78	32	35	40	45	33	12	30	36	72	41	57

Find the Coefficient of Rank correlation.

PART C

III Answer any ONE from the following 10 x 1 = 10

13. A) For the following data regarding height of students in a college, calculate the Median height. (5)

Height (in cms)	140-150	150-160	160-165	165-170	170-180	180-190
No. of students	5	15	15	20	10	2

- B) Define correlation and regression. List out any three properties of regression coefficients. (5)

14. A) In a bivariate data, $\sum x = 30$, $\sum y = 400$, $\sum x^2 = 196$, $\sum y^2 = 46,500$, $\sum xy = 850$ and $n=10$. Obtain the regression equation of y on x and hence estimate the value of y corresponding to the value $x = 5$. (5)

	Wholesale	Retail
Average Price (Rs/Quintal)	200	280
S.D(Rs/Quintal)	20	25

B) Write a short note on the following:

- i. Sampling and Non sampling error
- ii. Simple random sampling.

(5)
