

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024
(Regular/Improvement/Supplementary)
B.Com. HONOURS
GBCH3B14T: BUSINESS STATISTICS

Time: 3 Hours**Maximum Marks: 80****Part A. Answer all the questions. Each carries one mark.****Choose the correct answer.**

1. Which of the following is a measure of central tendency?
A) Standard Deviation. B) Range C) Median. D) Kurtosis.
2. When the values of two variables move in the same direction, correlation is said to be:
A) Positive. B) Negative. C) Linear. D) Non-linear.
3. The level of probability of accepting a true null hypothesis is called _____.
A) Degree of freedom. B) Level of significance.
C) Level of acceptance. D) None of these.
4. In a 4x4 contingency table, degree of freedom is _____.
A) 4. B) 16. C) 3. D) 9.
5. Of the following sampling methods, which is a probability method?
A) Judgement. B) Quota. C) Simple random. D) Convenience.

Fill in the Blanks.

6. State the Latin word from which statistics originated.
7. The quantitative measure of correlation between two variables is known as _____.
8. When the available population is _____, we use a stratified sample.
9. The sum of 10 numbers is 550. Their average number is _____.
10. _____ is positional measure of Central Tendency.

(10 x 1 = 10 Marks)**Part B. Answer any eight questions. Each question carries two marks.**

11. Define statistics.
12. What do you mean by secondary data?
13. What is rank correlation?
14. List out the methods of calculating coefficient of correlation.
15. What is Type-I error?
16. List out the properties of good estimator.
17. What is contingency table?
18. For what purpose 't' test is used?
19. What is standard error?
20. What do you mean by power of a test?

(8 x 2 = 16 Marks)**(PTO)**

Part C. Answer any six questions. Each carries four marks.

21. Define average. Explain its functions.
22. What are the methods of measuring the trend?
23. Find out Bowley's coefficient of skewness from the following:

X	7	8	9	10	11	12	13	14
f	8	20	35	40	32	25	18	22

24. A student obtained the mean and standard deviation of 100 observations as 40 and 5.1 respectively. It was later found that one observation was wrongly copied as 50, the correct figure being 40. Find the correct mean and standard deviation.
25. Explain the different types of sampling technique.
26. Two groups of 100 people each were taken for testing the use of vaccine. 15 persons contracted the disease out of the inoculated persons, while 25 contracted the disease in the other group. Test the efficacy of the vaccine at 5% degree of freedom.
27. It is claimed that a random variable of 100 tyres with mean life of 15269 km is drawn from a population of tyres which has a mean life of 15200 km and SD of 1248 km. Test the validity of claim.
28. A random sample of 20 pairs of observations from a normal population gives a correlation coefficient 0.42. Is the correlation significant?

(6 x 4 = 24 Marks)

Part D. Answer any two questions. Each carries fifteen marks.

29. X Ltd had four salesman A,B,C,D each of whom was sent for a month to three types of areas - country side K, outskirts of a city O and shopping centre of the city S. The sales in lakhs of rupees per month are given below:

Area	Salesmen A	Salesmen B	Salesmen C	Salesmen D
K	30	70	30	30
O	80	50	40	70
S	100	60	80	80

Carry out an analysis of variance and interpret the results.

30. From the following data of the age of Husband and the age of wife, form the two regression equations and calculate the husband's age when the wife's age is 16.

Husband's age	36	23	27	28	28	29	30	31	33	35
Wife's age	29	18	20	22	27	21	29	27	29	28

31. Explain in detail, the different types diagrams used in statistics.

(2 x 15 = 30 Marks)