GRAPHIC ERA HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

End Term (Even) Semester Examination May-June 2025

Roll no...............................

Name of the Program and semester: B.com (Hons) II SEM
Name of the Course: Business Statistics
Course Code: BCH202

Time: 3 hour   Maximum Marks: 100

Note:
  (i)   All the questions are compulsory.
  (ii) Answer any two sub questions from a, b and c in each main question.
  (iii) Total marks for each question is 20 (twenty).
  (iv) Each sub-question carries 10 marks.

Q1.   (2X10=20 Marks)
a. Although statistics are expressed in numerical terms, not all numerical data can be considered statistics. Elaborate on this statement. (CO4)
b. Evaluate the role of statistics in the study of Economics and Commerce, and illustrate how statistical tools assist managers in making effective business decisions? (CO5)
c. Examine the nature and functions of business statistics, and describe how it contributes to effective business decision-making, using appropriate examples? (CO4)

Q2.   (2X10=20 Marks)
a. What is meant by data collection? Discuss the different sources from which data can be collected? (CO2)
b. Construct a frequency polygon for the following data (CO4)

Salary in (in ₹)	100-200	200-300	300-400	400-500	500-600
No of Employess	20	30	40	50	60

c. Define sampling and explain its significance in Statistics? Discuss the various methods of probability and non-probability sampling, highlighting their differences, advantages, and limitations. (CO2)

Q3.   (2X10=20 Marks)

a. Calculate Mean, and Mode from the following frequency distribution:(CO4)

Sales in units	0-15	15-30	30-45	45-60	60-75	90-105	105-120
No of days	10	12	15	15	12	10	05

b. Find the standard deviation and coefficient of Variation from the following data:(CO4)

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No of students	12	15	30	35	20	15	10

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c. From the following data, calculate Mean Deviation and Quartile Deviation :(CO4)

Expenditure In (Rs)	100-200	200-300	300-400	400-500	500-600	600-700
Frequency	15	20	25	30	35	40

Q4.   (2X10=20 Marks)

   a. The following data shows the number of hours studied and the marks obtained by 10 students. Using the data below, draw a scatter diagram and comment on the relationship between hours studied and marks obtained. (CO4)

   Hours Studied: 2, 3, 4, 5,   6, 2,   3, 5, 6, 4

   Marks Obtained: 40, 45, 50, 55, 60, 42, 46, 58, 62, 52

b. Explain the concept of regression analysis and its significance in statistical and business decision-making. Discuss the methods of estimating regression equations and the interpretation of regression coefficients with suitable examples (CO3)

c. Ten Students got the following percentage of marks in Macro Economics and Microeconomics(CO4)

Macroeconomics : 8 36 98 25 75 82 92 62 65 35

Microeconomics : 84 51 91 60 68 62 86 58 35 49

Find the coefficient of Rank Correlation.

Q5.   (2X10=20 Marks)

a. Construct Index Numbers by chain base method from the following data of wholesale prices.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Prices	75	50	65	60	72	70	69	75	84	80

b. Use five yearly moving average for determining trend in the following time series data:

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fruit Juice production in tons	50	36	43	44	38	38	32	38	41

c. What do you understand by time series analysis? Discuss indices like the Wholesale Price Index (WPI) and Consumer Price Index (CPI), and analyze their role in measuring inflation and guiding policy decisions?(CO3)