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

BBA II Semester

BBA/ *BUSINESS STATISTICS*

BBA 203

Time: 3 hour

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

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 10*2=20 (twenty).
(iv) Each sub-question carries 10 marks.

Q1. (20 Marks)

a. A, B and C bidding for a contract. It is believed that A has exactly half chance that B has; B, in turn has 3/5 th as likely as C has to gain the contract. What is the probability for each to win the contract. **(CO3)**

b. For a distribution, Bowley's coefficient of skewness is -0.52, Q_1=15.4 and median =24.2. What is the coefficient of Quartile deviation **(CO3)**

c. Given the bivariate data:

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

i) Fit a regression line of y on x and predict value of y when x = 10
ii) Fit a regression line of x on y and predict value of x when y = 8.5   **(CO3)**

Q2.

a) Draw a Histogram and Frequency polygon for the following frequency distribution. **(CO2)**

(20 Marks)

Class	30-35	35-40	40-45	45-50	50-55	55-60	60-65
Frequency	8	15	20	35	25	30	10

b.) Eight coins are thrown simultaneously. Using Binomial distribution, find the probability of obtaining at least 6 heads.   **(CO3)**

c.) Explain the term "dispersion"? Describe the commonly used measures of dispersion and their applications. **(CO1)**

Q3.

(20 Marks)

a) Explain the concept of mathematical expectation. A random variable X is defined as the sum of points on the two faces shown by two dice when they are tossed. Find the expected value of X. **(CO3)**

b) Construct Fisher's ideal index number for the following **(CO4)**

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Commodity	1960 (Base year)		1968 (Current year)	
	Price	Quantity	Price	Quantity
A	8	6	12	5
B	10	5	11	6
C	7	8	8	5

data:

c)The height of students in a class are normally distributed with a mean of 62 inches and a standard deviation of 4 inches.
i) What proportions of the students in the class have a height greater than 68 inches?
ii) What is the probability that a student selected at random will have a height between 58 inches and 66 inches? **(CO3)**

Q4.

(20 Marks)

a)Explain the necessity of analyzing time series data. Describe the various components of time series. **(CO1)**

b)In a small business firm two typists are employed A and B. typing speed of A is 30pages per day on average with SD of 6; while B has on an average 45 pages per day with SD of 10. Which one has greater consistency. **(CO3)**

c.)State the advantages and disadvantages of graphical representation of data.

Q5.

(20 Marks)

a) The mean height of 35 female worker in a Amazon warehouse is 58inches and mean height of 65 male worker in the same Amazon warehouse is 72inches. Find the combined mean height of 100 workers in Amazon warehouse. **(CO3)**

b) "Tabulation of data is very important method of presenting data" Elaborate the statement and describe different parts of a statistical table. **(CO2)**

c) Explain briefly the various methods that are used for graphical representation of frequency distribution. **(CO1)**