

BINT 0222: BUSINESS STATISTICS AND RESEARCH

1. Answer Question ONE and any other TWO Questions.

QUESTION ONE (30 Marks)

a) Given the following table

Class interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70
frequency	6	12	22	37	17	8	5

- i. Draw both types of Ogive given from this data and determine the mean. [6 marks]
- ii. From the data above compute the mode. [6 marks]

- b). Define the following:
 - i. Probability space [2 marks]
 - ii. Null hypothesis [2 marks]

- c) Write short notes on how you can determine the skewness of unimodal distribution given its mean and median. [2 marks]

- d). List any four probability sampling techniques and explain them. [4 marks]

- e). Why is sampling so important during a research study. [2 marks]

- f). Give two measures of dispersion. [2 marks]

- g). Define kurtosis? [2 marks]

- h). What is correlation? [2 marks]

QUESTION TWO (20 Marks)

- a) Highlight major characteristics of statistics.
- b) Differentiate between discrete data and continuous data.
- c) Explain the importance of statistics in business.
- d) What are some of the limitations of statistics?

- e) What are the forms of statistics misuse?
- f) Define statistics.
- g) Distinguish between inferential statistics and descriptive statistics.

QUESTION THREE (20 Marks)

- a) An investor is fond of investing in equity shares. During a period of falling prices in the stock exchange, a stock is sold at Rs 120 per share per day, Rs 105 on the next day and Rs 90 on the third day. The investor has purchased 50 shares on the first day, 80 shares on the second day and 100 shares on the third day what is the average price per share did the investor pay?
- b) If merely prices of the shares for the three days were taken into consideration. What would be the average price?
- c) The table below shows the marks of 58 students in statistics:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	4	8	11	15	12	6	2

- i) Calculate the average marks of this group.
 - ii) Calculate the variance.
 - iii) Calculate the standard deviation
- d). the mean of the following frequencies was found to be 1.46

No. of students	0	1	2	3	4	5	Total
frequency	46	x	y	25	10	5	200

Calculate the value of x and y?

QUESTION FOUR (20 Marks)

- a) List two types of correlation.
- b) Define Kurtosis, if $\beta_1=1$ and $\beta_2=4$ and variance is 9, find the values of β_3 and β_4 and comment about the nature of the distribution.
- c) What are the different measures of skewness? Which one is repeatedly used?
- d) Explain the four data types of measuring scale used in coding of statistics data.
- e) If 4% of balls produced by a company are defective. Applying poisson distribution determine the probability that 2 balls in a sample of 80 are defective.

QUESTION FIVE (20 Marks)

- a). Write short notes on the following:
 - i) Karl Pearson's coefficient of correlation
 - ii) Spearman's rank correlation coefficient
- b) Given the table below

x	75	88	95	70	60	80	81	50
y	120	134	150	115	110	140	142	100

Calculate:

- i) Karl Pearson's coefficient of correlation
 - ii) Spearman's rank correlation coefficient
- c). Define probability
 - d). What is an independent event
 - e). Write a probability distribution of a binomial distribution