



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Com. Honours Examinations 2020
(Under CBCS Pattern)
Semester - III
Subject : ACCOUNTING AND FINANCE
Paper : GE 3-T & GE 3-P
(Business Statistics)

Full Marks : 60 (Theory - 40 + Practical - 20)
Time : 3 Hours

Candidates are required to give their answer in their own words as far as practicable.
The figures in the margin indicate full marks.

THEORY

Answer any **two** of the following questions :

$20 \times 2 = 40$

1. (a) If x_1 and x_2 are two positive values of a variate, prove that their geometric mean is equal to the geometric mean of their arithmetic mean and harmonic mean.
- (b) The mean marks in statistics of 100 examinees in a class was 72. The mean marks of boys was 75, while their number was 70. Find the mean marks of girls in the class.
- (c) For a certain frequency table with total frequency 150, the mean was found to be 76.47. But two of the class frequencies are missing. Find them.

Weekly wage (Rs.)	65	70	75	80	85	90	95
Frequency	5	48	?	30	?	8	6

6+8+6

2. (a) Write the properties of standard deviation.
- (b) Why is standard deviation considered to be a superior measure of dispersion?
- (c) What is Lorenz Ratio?
- (d) Prove that the standard deviation calculated from two values x_1 and x_2 of a variable 'x' is equal to half their difference.
- (e) Find the variance of the distribution in which the values of x are 1, 2, ..., n, the frequency of each being unity. 4+6+2+4+4
3. (a) Prove that the absolute value of the correlation coefficient between x and y depends neither upon the origin nor upon the scale.
- (b) Prove that the correlation coefficient between two variables is the geometric mean of the two regression coefficients.
- (c) For the variables x and y, the two regression lines were obtained as $3x + 2y - 5 = 0$ and $6x + y - 30 = 0$. Identify the two regression lines and find the means of x and y and the correlation coefficient. 5+3+12
4. (a) State Bayes' theorem. There are four sections in a class. The percentage of bad students is 12, 20, 13 and 17 for sections I, II, III and IV respectively. A school inspector on a visit to the school chooses one of the sections at random and from the chosen section takes a student also at random. What is the probability that a bad student chosen by the inspector belongs to section III?
- (b) Write the properties of normal distribution. The mean height of 1000 students at a certain college is 165 cms and SD is 10 cms. Assuming that the height distribution is normal, find the number of students whose height is (i) less than 172 cms; (ii) between 159 and 178 cms; and (iii) more than 173.2 cms. (3+7) + (4+6)

GE 3-P
(Business Statistics)
PRACTICAL

Answer any **one** of the following questions :

$$1 \times 20 = 20$$

1. The number of runs scored by V.V.S. Laxman during a test series consisting of 5 test matches against Australia is shown below for each of the 10 innings :

V.V.S. Laxman : 5, 26, 97, 76, 112, 89, 6, 108, 24, 16

Discuss the steps to compute the mean and standard deviation of the runs scored by Laxman.

2. Write down the steps to compute the regression equation of y on x on the basis of the following data :

Age of husband (y) :	25	30	32	35	23	26	25
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Age of wife (x) :	21	28	23	20	24	18	16
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Also write how will you compute the expected age of husband when the age of wife is 20 years.

3. With the help of arbitrary figures of sales of a product for five consecutive years from 2015 to 2019, explain the steps to draw a line chart and bar chart.
