UNIVERSITY OF KELANIYA – SRI LANKA

Centre for Distance and Continuing Education

FACULTY OF COMMERCE & MANAGEMENT STUDIES

Bachelor of Commerce (Special) Degree Second Year Examination (External) – 2021

March 2024

BCOM E 2035 – Business Statistics

No. of questions: Five (05) **Time: 03 hours**

Answer any four (04) questions only.

Question No. 01

a). Explain the five main tasks of "Business Statistics" by using an example.

(08 Marks)

b). Explain the difference between primary data and secondary data.

(04 Marks)

c). Mention three (03) avenues that can be collected primary data.

(03 Marks)

d). Explain the following measurement scales in statistics by using two examples.

i). Nominal Scale

ii). Ratio Scale

(04 Marks)

e). Explain the following by using suitable examples.

i). Skewness

ii). Kurtosis

(06 Marks)

(Total 25 Marks)

Question No. 02

a). Explain four graphical representations that you can use to describe the statistics with examples.

(04 Marks)

b). In ten rounds, a rugby team recorded the following scores.

18, 3, 21, 15, 9, 84, 27, 10, 42, 6

Calculate the following measurements concerning the above points.

i). Range
ii). Lower Quadrant (Q1)
iii). Upper Quadrant (Q3)
iv). Mean
v). Median
vi). Variance
vii). Standard deviation
viii). Coefficient of variation

Comment on your results.

(20 Marks)

c). Name some types of graphical representation you can suggest to understand the behavior of the above data.

(01 Mark)
(Total 25 Marks)

Question No. 03

a). Explain with examples why probability is practically important.

(05 Marks)

b). i). Write down the sample space for the events that can occur when two dice are tossed.

(04 Marks)

ii). What is the probability of getting seven?

(04 Marks)

c). Write the law of addition for non-mutually exclusive cases and the law of addition for mutually exclusive cases

(06 Marks)

d). The probability that a student fails in Business Statistics is 0.001, the probability of passing financial Accountancy is 0.25, and the probability of failing both subject is 0.02.

Find the probability that a student who fails in Business Statistics will also fail in Financial Accounting using the law of improbable probability.

(06 Marks)
(Total 25 Marks)

Question No. 04

a). Name two discrete probability distributions that one important among probability distributions.

(04 Marks)

b). Write down the probability density function of the binomial distribution.

(05 Marks)

c). Mention under which conditions the binomial distribution can be used.

(04 Marks)

d). i). Eight out of twelve workers in the packaging department of a garment factory belong to a trade union. If three employees are randomly selected from among those employees, what is the probability that those three employees being to the trade union?

(06 Marks)

ii). Find the mean and the variance of the above problem.

(06 Marks)
(Total 25 Marks)

Question No. 05

The following data show the average weekly savings in thousands rupees (Y) and the average weekly income (x) of people in different income groups in a certain town.

X	Y
19	1.0
22	1.4
27	1.8
30	2.4
36	3.0
43	3.8
47	4.3
51	4.5
61	5.8
64	6.3

a). Find the following summations.

i). $\overline{X}$ ii) $\overline{Y}$ iii). $\sum X^2$ iv) $\sum Y^2$ v). $\sum XY$

(12 Marks)

b). Calculate the linear regression of savings on income.

(08 Marks)

c). Compute the correlation coefficient between X and Y.

(03 Marks)

d). Comment on the results.

(02 Marks)

(Total 25 Marks)