

International Islamic University Chittagong
Department of Business Administration
Mid-Term Examination

Semester: Autumn-2019
Course Code-STAT-4201
Time: 2.00 hours

Program: MBA
Course Title: Business Statistics
Full Marks:30

[Answer any three (3) questions]

1. a) Define statistics with its properties and limitations. 3
Distinguish between primary data and secondary data. Discuss the presentation of data.
- b) The daily sales (in thousand tk) of 30 shops in a market are given below: 7
19,56,90,36,58,25,58,56,50,63,70,82,94,23,78,51,57,42,39,75,83,79,51,61,87,26,49,37,88,37;
Construct a frequency distribution using a suitable class interval and hence draw a histogram and an ogive curve of the frequency distribution.

2. a) What do you mean by measures of central tendency? 3
Define arithmetic mean and median with their properties and uses.
- b) The frequency distribution below represents the weights (in kg) of a sample of packages carried last month by a small airfreight company. 7

Class limits	10.0-10.9	11.0-11.9	12.0-12.9	13.0-13.9	14.0-14.9	15.0-15.9	16.0-16.9	17.0-17.9
Frequency	14	16	18	32	21	12	7	5

Find the value of arithmetic mean, median and mode of frequency distribution.

3. a) What is dispersion? Distinguish between mean deviation and standard deviation. 3
Indicate some properties of standard deviation.
- b) Lives of two models of refrigerators in a recent survey are as follows: 7

Life(No. of years)	No. of refrigerators(model A)	No. of refrigerators(model B)
0-2	5	2
2-4	16	7
4-6	13	12
6-8	7	19
8-10		

Which model has greater uniformity?

4. a) Define with example: Experiment, mutually exclusive events, Complementary event and Conditional Probability. Write down the laws of probability for two dependent and independent events. 3
- b) A market survey conducted in three cities pertained to preference for 'All CLEAR' Shampoo. The responses are shown below: 7

	Dhaka	Chittagong	Khulna
Prefer	400	270	125
Not Prefer	70	90	22
No opinion	50	50	50

- (i) What is the probability that a consumer selected at random not preferred 'All CLEAR'?
- (ii) What is the probability that a consumer preferred 'All CLEAR' and was from Dhaka?
- (iii) Given that a consumer preferred 'All CLEAR', what is the probability that he was from Khulna?
- (iv) What is the probability a consumer preferred 'All CLEAR' of Dhaka or Chittagong?