

INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG

Department of Business Administration

BBA Midterm Examination, Spring-2023

Course Title: **Introduction to Statistics** Course Code: **STAT-2301**

Time: 1 hour 30 min

Marks: 30

[Answer the following question. All parts of a question answer serially]

QN	Description of questions	Marks	CLOs
1.	<p>a) What do you mean by statistics? Mention some limitations of Statistics.</p> <p>b) Statistics are affected to a marked extent by multiplicity of causes- Justify.</p> <p>c) The salary (in hundred Taka) of 30 workers are given below: 20, 41, 37, 27, 51, 16, 35, 25, 46, 26, 53, 48, 38, 42, 23, 37, 63, 17, 5, 22, 59, 39, 31, 74, 43, 22, 33, 29, 31, 41</p> <p>(i) Prepare a frequency distribution taking suitable class interval.</p> <p>(ii) Draw histogram and frequency polygon.</p>	2 2 6	CLO-1 CLO-1 CLO-2
2.	<p>a) What are the different types of data? Distinguish between primary data and secondary data.</p> <p>b) The combined mean wage of 100 labors working in a factory running in three shifts of 20, 50 and 30 workers respectively is Tk. 84. The mean wages of labors working in the first two shifts are Tk. 90 and Tk.40 respectively. Find the mean wage of third shift workers.</p> <p>c) From the following data, prove that, <math>AM \geq GM \geq HM</math> 4, 7, 10, 3, 5, 8, 3, 2, 8, 12</p>	3 3 4	CLO-1 CLO-2 CLO-2

3. a) Which average is called best and why? When is mode suitable than arithmetic mean?

3 CLO-1

b) The profits earned by 200 companies during 2019-2020 are given below:

Profits (Tk. Lakhs)	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of companies	10	15	21	84	45	10	8	7

7 CLO-2

Calculate median and profit of 95% companies mathematically and graphically. Also interpret the results.

OR

a) Mention the properties of standard deviation. What is coefficient of variation?

3 CLO-1

b) The life of two types of tyres in a sample survey is given below:

Life (in km.)	Type A	Type B
5000-10,000	18	15
10,000-15,000	22	24
15,000-20,000	26	30
20,000-25,000	25	18
25,000-30,000	9	13

7 CLO-2

- (i) Which of the two makes give a higher average life?
- (ii) If prices are same for both the types, which tyre would you prefer and why?