

INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG

Department of Business Administration

Midterm Examination, Autumn-2023

Course Title: **Business Statistics** Course Code: **STAT-2402**

Time: 1 hour 30 min

Marks: 30

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

QN	Description of questions	Marks	CLOs
1.	a) What do you mean by binomial distribution? Discuss the assumptions of this distribution. b) The probability that a MBA graduate from a private University gets an executive job is 0.6. Four MBA graduates applied for executive jobs. What is the probability that (i) exactly 2 will get the job (ii) all will get the job (iii) at least 3 will get the job? OR	3 7	CLO-1 CLO-3
	a) What are the conditions that poisson distribution approaches to normal distribution? Distinguish between binomial distribution and poisson distribution. b) A manufacturer of electric fuses packs fuses in boxes of 12 each and 2000 such boxes were sold. The previous experience shows that 2 percent of the fuses are defective. Find how many boxes will contain (i) no defective (ii) more than one defective fuse (iii) between two and four defectives inclusively.	3 7	CLO-1 CLO-3
2.	a) What is meant by standard normal variate? Discuss the importance of normal distribution. b) The lifetime of dry cell follows normal distribution. A dry cell has average lifetime 12 hours and standard deviation of lifetime is 2 hours. What is percentage of dry cell is expected to have (i) less than 9 hours? (ii) between 10 and 15 hours? (iii) more than 15 hours?	4 6	CLO-1 CLO-3
3.	a) What are the cases in which sample survey is better than census? Narrate the steps of sample survey. b) The daily wages (in Tk.) of 36 workers in an industry are given below: 170,182,177,195,120,97,100,94,145,147,182,184,140,142,139,150,89,136,142,188,176, 199, 148, 140, 137, 185,106,120, 115, 151, 130, 92, 181, 101,121,132. (i) Draw a simple random sample of size 10 (ii) Estimate the sample mean and population mean of wages and comment.	4 6	CLO-3 CLO-4