

**Metropolitan University, Sylhet**  
**Department of Computer Science and Engineering**  
**Spring Term Final Examination - 2021**  
**Program: CSE, Batch: 50+51, Supplementary**  
**Course: STA 215: Basic Statistics and Probability**

**Time: 2 hours & 30 minutes**

**Total Marks: 40**

**Part A**

(Time: 50 minutes)

Marks: 20)

Answer the questions provided in the following link

<https://forms.gle/JMCsufDS83zRocBn8>

**Part B**

(Time: 1 hour & 30 minutes)

Marks: 20)

**Question 01** A chemical engineer is studying the effect of temperature on the yield of certain product in a chemical process. The process is run 10 times and the following data is observed for the temperature of each process X and the corresponding yield. **(4+3+3)=10**

Temperature X (in °C)	95	110	118	124	145	140	185	190
Yeild (in kgs)	108	126	102	121	118	155	158	178

- i) Find the value of skewness using any one of the variables and the no. of frequency.
- ii) Find the nature of correlation of these two variables. 0.13
- iii) The probable yeild for the given temperature is 150.

**Question 02** In a School, the probability that a student takes ICT and Math is 0.087. The probability that a student takes ICT is 0.68. What is the probability that a student takes Math given that the student is taking ICT? **(4)**

**Question 03** On New Year's Eve, the probability of a person having a car accident is 0.09. The probability of a person driving while intoxicated is 0.32 and probability of a person having a car accident while intoxicated is 0.15. What is the probability of a person driving while intoxicated or having a car accident? **(3)**

**Question 04** A husband and wife appear in an interview for two vacancies in the same post. The probability of husband's selection is  $\frac{1}{7}$  and that of wife's selection is  $\frac{1}{5}$ . What is the probability that

- i) Both of them will be selected
- ii) Only one of them will be selected
- iii) None of them will be selected

**(3)**