

Time: 50 minutes

Department of Computer Science and Engineering

Full: 15

Course Code: STA 227, Course Title: Statistics and Probability, Batch: 61 (D)

1. Suppose a survey is conducted to assess the programming language preferences of students of Daffodil International University across different faculties (e.g., Science and Information Technology, Engineering, Business & Entrepreneurship etc.).
 - a) Explain how cluster sampling can be utilized in this study. (2)
 - b) Highlight two potential benefits and drawbacks of this method. (2)
 - c) Which factors are crucial in the selection of a probability sampling method, explain. (1)
2. Given below the frequency distributions of heights (in cm) of male and female students of CSE department of Daffodil International University.

Height (in cm)	105-115	115-125	125-135	135-145	145-155	155-165	165-175	Total
Male	5	6	8	19	10	7	5	60
Female	7	10	18	8	6	2	*	**

* Last digit of your ID; ** Sum of all female students

- a) Calculate relative frequency, cumulative frequency. (1)
 - b) Draw a comparative frequency polygon using relative frequency. (2)
 - c) Draw a comparative ogive curve using cumulative frequency. (2)
3. Define the term “Statistics”. (3)
4. Distinguish between **Probability sampling** and **Non probability sampling**. (2)

“Good luck passing the exam and my deepest early condolences if you don’t”

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