Sri Lanka Institute of Information

Technology

A blue and orange logo

AI-generated content may be incorrect.

Lab Submission

07

**IT24100647**

**Jayasekara A.J.M.P.N**

**Probability and Statistics | IT2120**

B.Sc. (Hons) in Information Technology

**Exercise**

1. A train arrives at a station uniformly between 8:00 a.m. and 8:40 a.m. Let the random variable X represent the number of minutes the train arrives after 8:00 a.m. What is the probability that the train arrives between 8:10 a.m. and 8:25 a.m.?

A close up of text

AI-generated content may be incorrect.

A close-up of a white background

AI-generated content may be incorrect.

2. The time (in hours) to complete a software update is exponentially distributed with rate   
λ = 1/3. Find the probability that an update will take at most 2 hours.

A white background with black text

AI-generated content may be incorrect.

A close-up of a math problem

AI-generated content may be incorrect.

3. Suppose IQ scores are normally distributed with a mean of 100 and a standard deviation of 15.

i. What is the probability that a randomly selected person has an IQ above 130?

A math equation with numbers and symbols

AI-generated content may be incorrect.

A math equations on a white background

AI-generated content may be incorrect.

ii. What IQ score represents the 95th percentile?

A black and blue text

AI-generated content may be incorrect.

A black text with blue letters

AI-generated content may be incorrect.