Sri Lanka Institute of Information

Technology

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Lab Submission

Lab sheet No - 07

**IT24102440**

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**Probabilities and Statistics | IT2120**

B.Sc. (Hons) in Information Technology

**Exercise 02**

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.?

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.

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? ii. What IQ score represents the 95th percentile?

