Sri Lanka Institute of Information Technology

Lab Submission
Lab Sheet 06

IT 24103866

Obesekara S.O.K.D

Probability and Statistics| IT2120

B.Sc. (Hons) in Information Technology

```r
setwd("C:\\Users\\User\\OneDrive\\Desktop\\IT24103866")
getwd()

# Question 1: Binomial
n <- 50
p <- 0.85
prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
cat("1. ii. P(X ≥ 47) =", round(prob_at_least_47, 4), "\n")


# Question 2: Poisson
lambda <- 12
prob_exactly_15 <- dpois(15, lambda = lambda)
cat("2. iii. P(X = 15) =", round(prob_exactly_15, 4), "\n")
```

```
> setwd("C:\\Users\\User\\OneDrive\\Desktop\\IT24103866")
> getwd()
[1] "C:/Users/User/OneDrive/Desktop/IT24103866"
> # Question 1: Binomial
> n <- 50
> p <- 0.85
> prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
> cat("1. ii. P(X ≥ 47) =", round(prob_at_least_47, 4), "\n")
1. ii. P(X ≥ 47) = 0.046
> # Question 2: Poisson
> lambda <- 12
> prob_exactly_15 <- dpois(15, lambda = lambda)
> cat("2. iii. P(X = 15) =", round(prob_exactly_15, 4), "\n")
2. iii. P(X = 15) = 0.0724
```

values

lambda	12
n	50
p	0.85
prob_at_least_47	0.0460465788923019
prob_exactly_15	0.0723911201466387