# Question - 1:

**MA 323 - Monte Carlo Simulation Assignment - 9**

## Vishisht Priyadarshi

**180123053**

The rate of interest (r) is taken as 4 %.

|  |  |
| --- | --- |
| **Quantity** | **Value** |
| **̂** | 18.053849442071375 |
| **̂** | 11.7158041629235 |
| **95% confidence level** | [17.32769637687509, 18.78000250726766] |

# Question - 2:

The rate of interest (r) is taken as 4 %.

|  |  |
| --- | --- |
| **Quantity** | **Value** |
| **̂** | 18.053849442071375 |
| **̂** | 6.489405663719669 |
| **95% confidence level** | [17.651631911931617, 18.456066972211133] |

**Observations:**

1. The average option price (**̂**)is same in both the cases which was as expected.
2. After making use of control variate in part 2, the variance (**̂**) decreased from value of 11.7 to 6.5. Thus control variate helped in reducing the variance of the option price.