United International University

School of Science and Engineering

Course Title: CSI 424

Course Code: Simulation and Modeling Lab

Lab – 02

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| **Experiment No - 1**: Find the integration value of the following function using Monte Carlo Simulation Method    Real Value : 54 |
| **Tasks :**   1. Find the integral value using Monte Carlo Simulation method through Simulation 2. Compare the experimental value with the theoretical or real value. |
| **Marks distribution :**   1. Task – a : 5 marks 2. Task – b : 5 marks |
| **Sample input and output for Task-a :**   |  |  | | --- | --- | | Sample input :  Enter trial Number : 10  Enter trial Number : 100 | Sample output :  Integral value : 45    Integral value : 51.30000 |   **Sample input and output for Task-b :**  No input for Task-b.  Sample output : |

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| **Experiment No -2** : Find out the integration value of the following function using Monte Carlo Simulation method. |
| **Tasks :**   1. Find the integral value using Monte Carlo Simulation method through Simulation. 2. Compare the experimental value with the theoretical one. |
| **Marks distribution :**   1. Task – a : 5 marks 2. Task – b : 5 marks |
| **Sample input and output for Task-a :**   |  |  | | --- | --- | | Sample Input :  Enter trial Number : 1000 | Sample Output :  Value : -0.0628 | | Enter trial Number : 10000 | Value : 0.0333 | |

Sample input and output for task-b (same as experiment-1).