Ahsanullah University of Science and Technology
Department of CSE
CSE2201: Numerical Methods
Assignment on Approximation and Error in Numerical Computing
Total Marks: 15

1. Round off the following numbers to two decimal places using Chopping method and Symmetric Round off methods: (8)
   a. 2.3742,
   b. 81.255,
   c. 52.275,
   d. 48.21416

2. Find the truncation error in the result of the following function for $x = -1/5$ when we use first three terms. (2)
   $$e^x = 1 + x + x^2/2! + x^3/3! + x^4/4! + x^5/5! + x^6/6!$$

3. if u = 5xy2/z3 (3)
   $\Delta x = \Delta y = \Delta z = 1$ and $x = y = z = 1$
   Find the value of relative error.

4. An approximate value of **PI** is given as 3.1428571 and its true value is 3.1415926. Find E_A and E_R. (2)