BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

L-3/T-II   CSE 301: Mathematical Analysis for Computer Science

Time: 30 minutes   **Marks: 20**

Student Name: _____   Student ID: _____

1. Evaluate the following sum: (10)

$$\sum_{k=1}^{n} \frac{2k+3}{(2k-1)(2k+1)}$$

You are allowed to include harmonic numbers in the closed form.

2. Evaluate the following sum: (10)

$$\sum_{k=1}^{n} ke^{-k}$$