Daffodil International University, Spring'26

Course Title: Business Mathematics Code: MATH101

Quiz I, Date: 18.02.2026, Time: 30 Minutes

Name: **ID:**

1. Write the definition of Recurring Decimal Number with an example. Find the value of **a** and **b** if, **4**

   $2a + 6b = \bar{z}_1^{\,2}\, \bar{z}_2 + z_2^2 z_1;\ \ where, z_1 = \frac{2}{3} + \sqrt{3}\, i,\quad z_2 = \frac{1}{2} + \frac{\sqrt{3}}{2}\, i.$

2. Mr. Rahman invests \$35,000 at 6% interest for 4 years. How much money will he receive at the end of the investment period? **3**

3. a) Write the definition of sinking fund with a real-life example. Mr. Rahim needs immediate funds for his business expansion. He signs a note promising to pay Tk. 80,000 to the bank 6 months from now, but the bank gives him only Tk. 75,200 today. Find the discount rate charged by the bank and the effective interest rate on the loan. **1+3=4**

   b) Mrs. Rahima plans to invest a lump sum now in a fund that earns 12% interest compounded quarterly. The fund will provide her with payments of Tk. 5,000 every three months for 6 years, with the first payment due three months from now. Find the amount that Mrs. Rahima must invest now and the total interest she will earn from this investment. **4**

--------------------Write From Here --------------------