



# III BRAC University

Department of Mathematics and Natural Sciences

**Total Points: 15**

**Assignment - 01**

**Course Code: MAT215**

Complex Variables & Laplace Transform

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**Section: 12**

**Semester: FALL 2025**

**Submission Date:** \_\_\_\_\_

*Assigned by*

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**Question 1**

Let  $A = \begin{pmatrix} 2 & 1 \\ 3 & 4 \end{pmatrix}$ . Compute the inverse of  $A$  using row reduction.

 **Solution:**

**Question 2**

Find the Fourier series of  $f(x) = x$  defined on  $[-\pi, \pi]$ .

 **Solution:**

**?** Question 3

Determine whether the system

$$\begin{cases} x + 2y + 3z = 1, \\ 2x + 4y + 6z = 2, \\ x - y + z = 3 \end{cases}$$

is consistent. If yes, find all solutions.

 **Solution:**