**National University of Sciences & Technology  
School of Electrical Engineering and Computer Science**

Department of Humanities and Sciences

MATH-232: Complex Variables and Transforms (3+0): BEE2k20-12ABC Spring 2022

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| **Assignment − 1** | |
| **CLO-1 (Describe Complex functions, derivatives, contour integrals)** | |
| Maximum Marks: 10 | Instructor: Mr. Saeed Afzal |
| Announcement Date: 18th March 2022 | Due Date: 25th March 2022 |

**Instructions:**

* Understanding the question is part of the assignment and copying is not allowed.
* Express your answer in the most simplified form. Direct calculations using calculator are not allowed, you need to show the detail of your work to get the maximum marks.
* This is an individual assignment.
* Assignment must be handwritten and properly arranged with page numbers These two pages must be part of every assignment.
* Assignment is not acceptable after deadline.

Tasks: Attempt all questions.

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| **Students Name** | **NUST/Qalam ID** | **Section** |
| Muhammad Umer | 345834 | BEE 12C |

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| **Total Marks** | **Marks Obtained** |
| 10 Marks |  |

**Q - 1:** Find a suitable linear fractional transformation to study the steady state heat distribution for a circular plate of radius **1 (|z| ≤ 1)** for which the upper edge **(𝑦 > 0, |z| = 1)** is held at constant temperature **Ø = −1** and the lower edge **(𝑦 < 0, |z| = 1)** is held at constant temperature **Ø = 1**.

**Q - 2:** Find a suitable linear fractional transformation to study potential for a region (in the form of lens) common between two circles of radius 1 centered at 1 and kept at constant potential **Ø = 1** and **Ø = 0**, respectively.