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

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.

Students Name	NUST/Qalam ID	Section

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 $\mathbf{1}$ $(|\boldsymbol{z}| \leq \mathbf{1})$ for which the upper edge $\boldsymbol{(y > 0, |z| = 1)}$ is held at constant temperature $\emptyset = -\mathbf{1}$ and the lower edge $(\boldsymbol{y < 0, |z| = 1})$ is held at constant temperature $\emptyset = \mathbf{1}$.

Q-2: Find a suitable linear fractional transformation to study potential for a region (in the form of lense) common between two circles of radius 1 centered at 1 and i keept at constant potential $\emptyset = \mathbf{1}$ and $\emptyset = \mathbf{0}$**,** respectively.