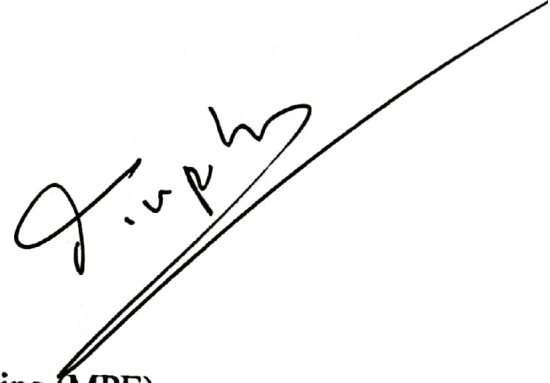


**RECOMMENDATION OF THE BOARD OF SUPERVISORS**

The thesis titled "Improvement of Surface Roughness by Ultrasonic Vibration of Aluminum Drilling" submitted by Rahman Maruf Morshed Student No: 180011237; Wasib ul Navid, Student No: 1180011232; Sakib Al Showkhin, Student No: 180011105; has been accepted as satisfactory in partial fulfillment of the requirements for the degree of BSc. in Mechanical Engineering on 19th May, 2023.

**BOARD OF EXAMINERS**

Dr. Md. Anayet Ullah Patwari Professor,  
Department of Mechanical and Production Engineering (MPE)  
Islamic University of Technology (IUT), Gazipur-1704, Bangladesh.  
(Supervisor)



### Candidate's Declaration

This is to certify that the work presented in this thesis, titled, "Improvement of Surface Roughness by Ultrasonic Vibration of Aluminum Drilling" is the outcome of the investigation and research carried out by me under the supervision of Dr. Md. Anayet Ullah Patwari, Professor, Department of Mechanical & Production Engineering, Islamic University of Technology.

It is also declared that neither this thesis nor any part of it has been submitted elsewhere for the award of any degree or diploma.

*maruf*

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**Rahman Maruf Morshed**

Student No: 180011237

*WASIB*

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**Wasib ul Navid**

Student No: 180011232

*Sakib*

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**Sakib Al Showkhin**

Student No: 180011105