## Recommendation of the Thesis Supervisors

The thesis titled "Modelling and Sensitivity Analysis of PEM Fuel Cells with Waste Heat Recovery via Zeotropic Mixtures in Organic Rankine Cycle" submitted by Ruqaiya Islam Mishi, Student No: 190011113, Nazmus Shameer Islam, Student No: 190011122, Md. Ar Rafi Bin Arif, Student No: 190011123 has been accepted as satisfactory in partial fulfillment of the requirements for the degree of B Sc. in Mechanical Engineering on 5<sup>th</sup> June 2024.

Dr. Arafat Ahmed Bhuiyan

(Supervisor)

**Professor** 

MPE Dept., IUT, Board Bazar, Gazipur-1704, Bangladesh.

2.

Dr. Md. Rezwanul Karim

(Co-Supervisor)

Professor

MPE Dept., IUT, Board Bazar, Gazipur-1704, Bangladesh.

## Candidate's Declaration

This is to certify that the work presented in this thesis, titled, "Modelling and Sensitivity Analysis of PEM Fuel Cells with Waste Heat Recovery via Zeotropic Mixtures in Organic Rankine Cycle", is the outcome of the investigation and research carried out by me under the supervision of Dr. Arafat Ahmed Bhuiyan, Professor, Department of Mechanical and Production Engineering.

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.

Signature of the Candidates

Ruqaiya Islam Mishi

Student ID: 190011113

Nazmus Shameer Islam

Student ID: 190011122

Md. Ar Rafi Bin Arif

Mohammar And afficy

Student ID: 190011123