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# CERTIFICATE

## OF PARTICIPATION

This certifies that

**Afnan Birahim**

has participated and presented a paper entitled:

**Optimal Control Problem and Its Application in COVID-19 Transmission Dynamics**

at the **3<sup>rd</sup> International Conference on Advanced Engineering, Technology, and Applications**, held at the **University of Catania, Italy** on May 24-25, 2024.

**Dr. Alessandro Ortis**  
General Chair