**Visvesvaraya Technological University**

### BelAgaVI-590014



**A CG Mini-Project Report**

**On**

***“Rubik cube”***

*Submitted in partial fulfillment of the requirements for the 6th semester of*

***Bachelor of Engineering in Computer Science and Engineering***

*of Visvesvaraya Technological University, Belagavi*

Submitted by:

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**2019**

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**CERTIFICATE**

Certified that the mini project work entitled **“RUBIK CUBE”** has been successfully carried out by **MATHARISHWA B** bearing USN **1RN16CS052** and **ADITH KUMAR BA** bearing USN **1RN16CS004** bonafide students of **RNS Institute of Technology** in partial fulfillment of the requirements for the **6th semester** of **Bachelor of Engineering** in **Computer Science and Engineering** of **Visvesvaraya Technological University**, Belgaum, during academic year 2019. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the CG laboratory requirements of 6th semester BE, CSE.

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**Name of the Examiners Signature with Date**

**1.**

**2.**

**ACKNOWLEDGMENT**

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**ABSTRACT**

The Rubik’s Cube is a common 3-D combination puzzle known and loved by people of all ages. The mathematics of Rubik’s Cubes has been explored in great detail ever since the beginning of their production in the 1980’s. The first part of this project consisted of research on the mathematics of the Rubik’s Cube and how that is used for various solutions to the cube. Overall, this thesis discusses the knowledge gained on Rubik’s Cube theory, Rubik’s Cube Algorithms, modifying algorithms to fit specific needs, Cpp language, Open Graphics Library (OpenGL) Application Programming Interface (API), Visual studio Development Tools, and testing and debugging with visual studio as well as programming methodologies for the application based on problems encountered and their relative solutions during development.