**Real-Time / Field-Based Research Project**

**Guidelines to the Students for Stage-2 Evaluation and submission of Project Report:**

1. All the students in the batch must be present during the presentation.
2. The presentation will be evaluated for **50 Marks (per student).**
3. The evaluation shall be based on
4. Implementation & Team Work (20 Marks)
5. Presentation (15 Marks)
6. Documentation (15 Marks)
7. The students should be in **formal dressing** for the presentation.
8. The Project execution & report should be shown to the respective guide prior to the final presentation.
9. The **Project execution** status along with the **Project Report (duly signed by the guide & HoD)** should be submitted to RTFP coordinators on **21.04.2025** mandatorily.
10. The students are informed to submit a brief report of minimum 25 pages.
11. The students are instructed to show a rough copy of the document and get it approved from their respective guides before getting it binded (**Spiral binding to be done).**
12. The cover color for Spiral binding is

CSE (DS) – Sky blue, **(RTFP course code is 22DT284)**

**ORGANIZATION OF THE REPORT**

* Title page
* Certificate
* Declaration
* Acknowledgement
* Table of Contents
* Abstract
* List of tables
* List of figures
* List of abbreviations/symbols
* Chapters
* Conclusions
* References
* Page No’s should be in the bottom center of the page in Times New Roman and 12 font size
* All the Page Headings must be in Times New Roman Bold and font size 16
* Side Headings should be in Times New Roman Bold, font size 14
* Side Sub-Headings must be in Times New Roman Bold , font size 12
* Body text content font size is 12 in Times New Roman with 1.5 lines Paragraph spacing.
* The font style of the college name on the title page & certificate page should be CG OMEGA only.

The front pages format to be included in the report are herewith attached for your reference

**A REAL-TIME / FIELD-BASED RESEARCH PROJECT REPORT ON**

**Exploratory Analysis of Geolocational Data**

*in the partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

in

**COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)**

**Submitted by**

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**S YAKHUB BABA 21B81A67C8**

Under the guidance of

**Mrs. S. Vineela Krishna**

**Sr. Assistant Professor, CSE (DS)**

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)**

**CVR COLLEGE OF ENGINEERING**

**(*An Autonomous institution, NAAC Accredited and Affiliated to JNTUH, Hyderabad*)**

Vastunagar, Mangalpalli (V), Ibrahimpatnam (M),  
Rangareddy (D), Telangana- 501 510

**APRIL 2025**

**CVR COLLEGE OF ENGINEERING**

**(*An Autonomous institution, NAAC Accredited and Affiliated to JNTUH, Hyderabad*)**

Vastunagar, Mangalpalli (V), Ibrahimpatnam (M),  
Rangareddy (D), Telangana- 501 510

**COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)**

****

**CERTIFICATE**

This is to certify that the Real-Time / Field-Based Research Project report entitled **“Exploratory Analysis of Geolocational Data”** bonafide record of work carried out by **T NISHITH (21B81A6793), K SIDDHARTH (21B81A67B9)** and **S YAKHUB BABA (21B81A67C8)** submitted to **Mrs. S.Vineela Krishna, Sr. Assistant Professor** for the requirement of the award of **Bachelor of Technology** in **Department of Computer Science and Engineering (Data Science)** to the CVR College of Engineering, affiliated to Jawaharlal Nehru Technological University, Hyderabad during the year 2024-2025.

**Project Guide Project Coordinator**

Mrs. S.Vineela Krishna S. Vineela Krishna,

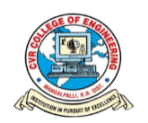
Sr. Assistant Professor Sr. Assistant Professor

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**Head of the Department**

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Rangareddy (D), Telangana- 501 510

**DECLARATION**

We hereby declare that the Real-Time / Field-Based Research Project report entitled **“Exploratory Analysis of Geolocational Data”** is an original work done and submitted to Computer Science & Information Technology Department, CVR College of Engineering, affiliated to Jawaharlal Nehru Technological University Hyderabad in partial fulfilment for the requirement of the award of Bachelor of Technology in Computer Science and Information Technology and it is a record of bonafide project work carried out by us under the guidance of **Mrs. S.Vineela Krishna,** Sr.Assistant Professor, Department of CSE (Data Science).

We further declare that the work reported in this project has not been submitted, either in part or in full, for the award of any other degree in this Institute or any other Institute or University.

Signature of the Student

**T NISHITH**

Signature of the Student

**K SIDDHARTH**

Signature of the Student

**S YAKHUB BABA**

**Date:**

**Place:**

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**SYMBOLS**

Symbols

A Pre-exponential constant

Ad Droplet cross-sectional area, m2

As Droplet surface area, m2

A0 Nozzle cross sectional area. m2

Cp Specific heat, J/kg-K

Cam Reaction progress variable

C Coefficient of discharge of nozzle

Cd Reference specific heat at temperature T0

**ABBREVIATIONS**

ATDC After Top Dead Center

BDC Bottom Dead Center

BTDC Before Top Dead Center

CA Crank Angle

CAD Computer Aided Design

CCS Combined Charging System

CFD Computational Fluid Dynamics

CO Carbon Monoxide

CTC Characteristic–Time Combustion

**ABSTRACT**

**CHAPTER 1**

**INTRODUCTION**

**1.1 MOTIVATION:**

**1.2 PROBLEM STATEMENT:**

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