A REPORT
ON

SUMMER-TERM TIMETABLE GENERATION

Submitted by,

THUMMALAPALLE VAMSHIKA - 20211CSE0736
MEDA SAI SRIHITHA - 20211CSE0716
S.PAVANI - 20211CSE0729

Under the guidance of,

Mr.Jerrin Joe Francis

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

PRESIDENCY UNIVERSITY

BENGALURU

MAY 2025

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report **"SUMMER-TERM TIMETABLE GENERATION"** being submitted by "MEDA SAI SRIHITHA, S.PAVANI, THUMMALAPALLE VAMSHIKA" bearing roll number(s) "20211CSE0716, 20211CSE0729, 20211CSE0736" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

Mr. JERRIN JOE FRANCIS
Assistant Professor
PSCS
Presidency University

Dr. ASIF MOHAMMED
Associate Professor & Hod
School of CSE&IS
Presidency University

Dr. MYDHILI NAIR
Associate Dean
PSCS
Presidency University

Dr. SAMEERUDDIN KHAN
Pro-Vice Chancellor - Engineering
Dean –PSCS/PSIS
Presidency University

ii

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

I hereby declare that the work, which is being presented in the report entitled "**Summer-Term Timetable Generation**" in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of my own investigations carried under the guidance of **Mr. JERRIN JOE FRANCIS, Presidency School of Computer Science and Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

Name	Roll Number	Signature
Meda Sai Srihitha	20211CSE0716	
S Pavani	20211CSE0729	
T Vamshika	20211CSE0736	

iii

ABSTRACT

This project report outlines the creation of an automated system aimed at tackling the specific issues of academic scheduling during the summer term. Unlike traditional semesters, summer terms have shortened schedules, limited availability of faculty, and a greater need for efficient resource allocation, which makes standard manual scheduling approaches inadequate. The main objective is to develop a computationally efficient system that generates optimal, conflict-free schedules while considering institutional constraints like room capacities, instructor availability, course lengths, and overlaps in student enrollment. The suggested solution combines constraint satisfaction techniques with heuristic optimization strategies to provide a practical and effective scheduling tool. A review of existing research on methods like graph coloring, genetic algorithms, and linear programming guided the creation of a modular, scalable, and user-friendly system architecture that can adapt to various institutional needs.

The report outlines the development journey of the system, starting from the initial problem analysis through to implementation and extensive testing. Experimental findings showcase the system's ability to create valid schedules that reduce administrative burdens and improve scheduling accuracy. The system features an easy-to-use interface that enables administrators to establish constraints, select preferences, and visualize the schedules effortlessly. The concluding sections emphasize the possibilities for future improvements, including integration with broader academic management systems and the potential to utilize machine learning to enhance scheduling based on past data. By automating the timetable creation process, the system not only simplifies summer term operations but also provides a flexible framework that can be adapted to address other academic scheduling issues.