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TIRUNELVELI- 627 011.

CRITERION I

UG SCIENCE

2021-2022

A STUDY ON COLORING CONCEPT IN GRAPHS

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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INTERNAL GUIDE

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DECLARATION

We do hereby declare that this project work titled "**A STUDY ON COLORING CONCEPT IN GRAPHS**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

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A STUDY ON COLORING CONCEPT IN GRAPHS

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ABSTRACT

The swiss Mathematician Leonhard Euler is considered as the Father of Graph Theory. Today Graph theory has matured into a full-fledged theory from a more collection of challenging games and interesting Peculiarity of Graph theory is that it depends very little on other branches of Mathematics and is independent in itself. Graph coloring enjoys many practical applications as well as theoretical challenges. Graph coloring is still a very active field of research. Graph coloring is one of the best known, popular and extensively researched subject in the field of graph theory, having many applications and conjectures, which are still open and studied by various mathematicians and computer scientists along the world. In this paper we present a graph coloring as an important subfield of graph theory, describing various methods of the coloring. A graph G is a mathematical structure consisting of two sets V(G) (vertices of G) and E(G) (edges of G). Proper coloring of a graph is an assignment of colors either to the vertices of the graphs, or to the edges, in such a way that adjacent vertices \ edges are colored differently. This proper discusses coloring and operations on graphs with Mathematica and web Mathematica. We consider many classes of graphs to color with applications. We draw any graph and also try to show whether it has an Eulerian cycles by using our pakage ColorG.

A STUDY ON GAME THEORY

A project work report submitted to the

Department of Mathematics

In partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

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This is to certify that this project work titled **'A STUDY ON GAME THEORY'** is a bonafide work of G.ARCHANA VANI, R.ISAIMATHY, S.RAMALAKSHMI and M.THIVYA of Final Year B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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INTERNAL GUIDE

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DECLARATION

We do hereby declare that this project work titled **"A STUDY ON GAME THEORY"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

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A STUDY ON GAME THEORY

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ABSTRACT

Game Theory can be defined as the study of how people interact and make decisions. Game Theory is a special branch of mathematics which has been developed to study decision making in complex circumstances. The idea to see business as a game, in the sense that a move by one player sparks of moves by others, runs through modern strategic thinking. John Von Neumann is a father of Game Theory. Minimax - Maximin Principle is studied and game problems are solved using this principle. The position in the payoff matrix corresponding to the optimal strategies is called a saddle point. If the game has saddle point, we can easily get the value of the game. When the game has no saddle point, in order to solve a game by mixed strategies, the game should be a 2×2 game and if it is not a 2×2 game, it can be solved by Dominance property. If dominance property fails to solve a game problem we can try to solve it by graphical method, the game should be m×2 or 2×n. The applications of the game theory in Linear Programming are discussed. The applications of game theory is not limited to games in ordinary sense of it but also includes in economics, business, warefare and social behavior, etc., Game theory can be used to better understand and analyze existing situations wherever there are limited resources, different decision options, different outcomes from different choices, and the possibility of collaboration or competition between players.

Keywords: Saddle point, value of the game, Minimax-Maxmini, Dominance property.

A STUDY ON ROUGH SET ON GROUP THEORY

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
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We do hereby declare that this project work titled **"A STUDY ON ROUGH SET ON GROUP THEORY"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

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ROUGH SET ON GROUP THEORY

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4. E.Veni

III B.Sc., Mathematics

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Abstract

The notion of Rough sets was introduced by Z.Pawlak 1982.Rough set theory proposes a new mathematical approach to imperfect knowledge or vagueness. In this approach, vagueness is expressed by a boundary region of a set. The primary notion is the partitioning of the domain into equivalence classes. Hence Rough set theory is a theory of multiple memberships. Rough set concept can be defined by means of topological operations, interior and closure called approximations. Rough set is a powerful tool to handle imprecise situations and rough algebraic structures can play a vital role to handle such situations. Rough set theory has been combined with other mathematical theories such as modal logic Boolean algebra, fuzzy sets, semi group and random set. In 1994,Biswas and Nanda introduced the notion of rough group and rough subgroups that their notion depends on the upper approximation and does not depend on the lower approximation.Miao et al improve definitions of rough group and rough subgroup.

In this project, we define the basic definition of the upper rough group, upper rough abelian group, upper rough semigroup, upper rough monoid, rough group, rough abelian group, rough subgroup, rough right coset, rough left coset, normal rough sub group, rough invariant subgroup, rough homomorphism, upper rough homomorphism, rough homomorphism kernel, upper rough isomorphism, rough semi group, rough sub semi group, rough antihomomorphism and proved some results.

Keywords: Rough group, rough subgroup, upper rough monoid, Rough homomorphism, Rough antihomomorphism.

APPLICATION OF FUZZY MATRICES IN MEDICAL DIAGNOSIS

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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This is to certify that this project work titled **'APPLICATION OF FUZZY MATRICES IN MEDICAL DIAGNOSIS'** is a bonafide work of E.CHITHRA, T.SAKTHIRAJESWARI, V.SHANMUGA PRIYA and S.SUBALAKSHMI of Final B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"APPLICATION OF FUZZY MATRICES IN MEDICAL DIAGNOSIS"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.




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APPLICATION OF FUZZY MATRICES IN MEDICAL DIAGNOSIS

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Abstract

Fuzzy matrices defined first time by Thomson in 1977 and discussed about the union of the powers of a fuzzy matrix. The theories of fuzzy matrix have been developed by Kim and Roush. The discipline of Medicine is one of the most abundant and motivating regions of programs for fuzzy set theory. Fuzzy matrices play a vital role in medical diagnosis. In this project, we define the basic concept of fuzzy matrices application of fuzzy matrices in medical diagnosis using triangular fuzzy number matrix. Operations on fuzzy membership value have been defined. Diabetic associated illness and its signs are discussed and the different kinds of affected patients are analyzed the use of fuzzy soft matrices.

Keywords: Medical diagnosis, fuzzy matrix, triangular fuzzy number, fuzzy soft matrix, fuzzy membership value.

A STUDY ON MATRIX SEQUENCES

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

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We do hereby declare that this project work titled "**A STUDY ON MATRIX SEQUENCES**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.




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A STUDY ON MATRIX SEQUENCES

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ABSTRACT

Matrix and sequences have been the fascinating topics of Mathematics in centuries. The Fibonacci sequence is a source of many nice and interesting identities. Similarly , this interpretation exists for Lucas sequences and Tribonaaci sequences. Fibonacci, Lucas and Tribonaaci sequences are defined by the recurrence formula. Fibonacci matrix is defined by the matrix using Fibonacci numbers. In similar way, Lucas and Tribonaaci matrices are defined by the matrix using the respective numbers of Lucas and Tribonacci. In this project we discussed about the relationship between Fibonacci and Lucas numbers and also derive the binet's formula, Cassini's Identity for this numbers

Keywords: Fibonacci,Lucas,Tribonacci,numbers,sequences,matrix.

ANALYSIS ON IMPACT OF VEDIC MATHEMATICS

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

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CERTIFICATE

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DECLARATION

We do hereby declare that this project work titled "**ANALYSIS ON IMPACT OF VEDIC MATHEMATICS**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

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ANALYSIS ON IMPACT OF VEDIC MATHEMATICS

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ABSTRACT

Vedic Mathematics is the collective name given to a set of sixteen mathematical formulae discovered by Jagadguru Swami Sri Bharati Tirthaji Maharaj. Each formula deals with a which otherwise take numerous steps to solve can be solved with the help of a few different branch of Mathematics. These sixteen formulae can be used to solve problems ranging from arithmetic to algebra to geometry to conics to calculus. The formulae are applicable to virtually any kind of mathematical problems. Complex mathematical questions steps and in some cases without any intermediate steps at all.

Vedic is a Sanskrit word which meaning is knowledge and wisdom. Mathematics is the Abstract science of number, amount and space which also applied to other disciplines such as physics and engineering (applied).These two-term Vedic and Mathematics represent knowledge of Mathematics. It is related to the Vedic Period or in other words Vedic Mathematics is the mathematics which used by the ancient Indian sages.

The project consists of four chapters,

1. **Preliminaries**
2. **Sutras and Examples**
3. **Impact of Vedic Mathematics**
4. **Improving the Speed of Calculations Using Vedic mathematics**

In chapter 1, origin, facts of vedic mathematics, advantages, features and benefits of vedic mathematics [20] are discussed.

In chapter 2, vedic mathematics sixteen sutras and example are discussed.

In chapter 3, impact of vedic mathematics is studied.

In chapter 4, improving the speed of calculations using vedic mathematics are studied.

A STUDY ON IDEALS AND RADICALS IN COMMUTATIVE RINGS

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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CERTIFICATE

This is to certify that this project work titled **'A STUDY ON IDEALS AND RADICALS IN COMMUTATIVE RINGS'** is a bonafide work of K. ISWARYA, S. RENUKHA, S. SREE DEVI and K .SUBA of Final year B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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K. Iswarya
(K.ISWARYA)

S. Renukha
(S.RENUKHA)

S. Sree Devi
(S.SREE DEVI)

K. Suba
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A STUDY ON IDEALS AND RADICALS IN COMMUTATIVE RINGS

Name of the students: M. Iswarya, S. Renukha, S. Sree devi, K. Suba.

Internal guide: K. Pramma Priya, M.Sc., B.Ed., M.Phil., Assistant Professor, Department of Mathematics.

ABSTRACT

In Mathematics, ideals and radicals are one of the fundamental algebraic structure used in abstract algebra. We show that how we introduce ideals and radicals into the commutative rings. In addition to indicating the importance of the new radicals in the structure theory, we will be concerned with the nature of the inclusion relations between them and the circumstances under various radicals coincide.

Let us now start with the definition of Ideals and Radicals. In principle, their theory that we will then quickly discuss in this project is entirely analogous to that of ideals and radicals in commutative rings. Although many properties just carry over without change, other will turn out to be vastly different.

A STUDY ON TREE DOMINATION

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirement for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

G. KAVIYA PRIYA	-	**2019UMA14**
P. NANDHINI	-	**2019UMA20**
G. SANTHIYA	-	**2019UMA30**

Under the Guidance of

Smt. R. Radha, M.Sc., B.Ed., M.Phil.,

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SRI SARADA COLLEGE FOR WOMEN

(An Autonomous Institution)

(Affiliated ManonmaniamSundarnar University, Tirunelveli – 627 012)

Institution recognized u/s 2(f) and 12 (B) of UGC & Re-accredited with 'A' Grade by NAAC

(A Branch of Sri RamakrishnanTapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar post, Thoothukudi NH,

TIRUNELVELI – 627 011, TAMILNADU INDIA.

CERTIFICATE

This is to certify that this project work titled **"A STUDY ON TREE DOMINATION"** is a bonafide work of G. Kaviya Priya, P. Nandhini and G. Santhiya of Final year B.Sc., Mathematics Sri Sarada College for women (Autonomous) Tirunelveli – 627 011 in partial fulfilment of the requirement for the award of degree **of BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 – 22.

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INTERNAL GUIDE

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21/1/22
EXTERNAL EXAMINER

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DECLARATION

We do hereby declare that this project work titled **"A STUDY ON TREE DOMINATION"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

G. Kaviya Priya

(G. KAVIYA PRIYA)

P. Nandhini

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G. Santhiya

(G. SANTHIYA)

A. Radha.

Signature of the Internal Guide

A STUDY ON TREE DOMINATION

Name of the students :

1. G. Kaviya Priya, 2. P. Nandhini, 3. G. Santhiya.

Internal Guide Name : Smt. R. Radha.

Abstract

Let G(V,E) be a Tree graph and V(G), E(G) are the vertex set and edge set of G respectively. A subset S of V(G) is called a dominating set if every vertex in V(G)\S is adjacent to some vertex in S. The domination number $\gamma(G)$ of G is the minimum cardinality taken over all dominating set of G. Suppose, a dominating set S is called a tree dominating set if the induced subgraph < S > is a tree. For acyclic graph G, that the tree domination number $\gamma(G)$ of G is the minimum cardinality taken over all minimal tree dominating set of G. In this project we analyzed the different domination parameters such as, domination number $\gamma(G)$, Italian domination number $\gamma_I(G)$ on trees and Split tree domination number $\gamma_{str}(G)$ and Global domination number $\gamma_g(G)$ on tree graph.

A STUDY ON TIME SERIES ANALYSIS AND ITS APPLICATION

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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M.MURUGA LAKSHMI - 2019UMA19
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INTERNAL GUIDE

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DECLARATION

We do hereby declare that this project work titled "**A STUDY ON TIME SERIES ANALYSIS AND ITS APPLICATION**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.




M. Marilakshmi M. Muruga lakshmi M.S. Pragathy B. Shree vijaya lakshmi

(M.MARILAKSHMI) (M.MURUGA LAKSHMI) (M.S.PRAGATHY) (B.SHREE VIJAYALAKSHMI)

A. Malathi

Signature of the Internal Guide

A STUDY ON TIME SERIES ANALYSIS AND ITS APPLICATION

Name of the students :

M.Marilakshmi, M.Muruga lakshmi, M.S.Pragathy, B.Shree vijayalakshmi.

Internal Guide : Dr. A. Maha lakshmi M.Sc.,M.Phil.,PHD,
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ABSTRACT :

A time series is a sequence of observations ordered in time. Mostly those observations are collected at equally spaced discrete time intervals. A basic assumption in any time series analysis modelling is that some aspects of the past pattern will continue to remain in future. Time series analysis can be used more easily for forecasting purposes because historical sequences of observations upon study variables are readily available from published sources. These successive observations are statistically dependent and time series modelling is concerned with techniques for the analysis of such dependencies. Time series, measurements of quantity taken over time, are fundamental data objects studied across the scientific disciplines, including measurements of stock prices in finance. Although a strong theoretical underlies many time series analysis methods, their great number and interdisciplinary diversity make it very difficult to determine how methods developed in different disciplines relate to one another, and for scientists to select appropriate methods for their noisy data. In general, time series are characteristics of complex datasets recorded over a constant period of time. Time series analysis, modelling and forecasting have much essence in practical examples of real life and in a variety of research fields including business, economics, medicine, astronomy, engineering and many more. The COVID – 19 pandemic has caused worldwide socioeconomic unrest, forcing governments to introduce extreme measures to reduce its spread. The main objective of the paper is to identify the effect of unlocking in India by doing a comparative study on the forecasting using the unlock and the lockdown COVID – 19 data for both positive cases and the total number of tests conducted.

A STUDY ON SOME INTERESTING CONCEPTS IN GRAPHS

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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2019UMA02

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This is to certify that this project work titled **'A STUDY ON SOME INTERESTING CONCEPTS IN GRAPHS'** is a bonafide work of J. ANANTHA NAYAKI of Final B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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DECLARATION

I do hereby declare that this project work titled **"A STUDY ON SOME INTERESTING CONCEPTS IN GRAPHS"** was carried out by me for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is my original work.

J. Anantha Nayaki

(J. ANANTHA NAYAKI)

Signature of the Internal Guide

A STUDY ON SOME INTERESTING CONCEPTS IN GRAPHS

ABSTRACT

The project entitled as **"A STUDY ON SOME INTERESTING CONCEPTS IN GRAPHS"** embodies the work done by **J. ANANTHA NAYAKI** under the guidance of **Dr.(Smt.). V.LAVANYA.**

Graph theory is the study of graphs, which are mathematical structures, used to model pair wise relations between objects from a certain collection. Graphs are among the most ubiquitous models of both natural and human-made structures. Graphs can be used to model many types of relations and processes in physical, biological, social and information systems. Many practical problems can be represented by graphs. During the later part of the twentieth century and the beginning of twenty first century the areas of graph theory, computer engineering, and operations research has had an explosive growth.

In computer science, graphs are used to represent networks of communication, data organization, computational devices, the flow of computation, etc. For instance, the link structure of a website can be represented by a directed graph, in which the vertices represent web pages and directed edges represent links from one page to another. A similar approach can be taken to problems in travel, biology, computer chip design, and many other fields. The development of algorithms to handle graphs is therefore of major interest in computer science. The transformation of graphs is often formalized and represented by graph rewrite systems. Complementary to graph transformation systems focusing on rule-based in-memory manipulation of graphs are graph databases geared towards transaction-safe, persistent storing and querying of graph-structured data.

The project consists of 4 chapters

1. **Preliminaries**
2. **Coloring concepts in some interesting graphs**
3. **Applications of vertex colorings**
4. **Open support of some special types of graphs under addition**

In chapter 1, the basic definitions on graphs which are needed for subsequent chapters are collected.

In chapter 2, In this chapter, coloring concepts of some interseting graphs are discussed.

In chapter 3, In this chapter, real life application of vertex coloring are discussed.

In chapter 4, In this chapter, open support of a vertex and some special type of graphs are discussed.

IMPACT OF THE COVID-19 PANDEMIC ON DAILY AFFECT AND PARENTING WITH PSYCHOLOGICAL ASPECTS IN GRAPHS

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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CERTIFICATE

This is to certify that this project work titled **'IMPACT OF THE COVID-19 PANDEMIC ON DAILY AFFECT AND PARENTING WITH PSYCHOLOGICAL ASPECTS IN GRAPHS'** is a bonafide work of T.S.DHIVYA of Final B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"IMPACT OF THE COVID-19 PANDEMIC ON DAILY AFFECT AND PARENTING WITH PSYCHOLOGICAL ASPECTS IN GRAPHS"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is our original work.

T. S. Dhivya.

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Signature of the Internal Guide

IMPACT OF COVID-19 PANDEMIC ON DAILY AFFECT AND PARENTING WITH PSYCHOLOGICAL ASPECTS IN GRAPHS

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Internal Guide: Selvi.P.Siva Ananthi, M.Sc., M.Phil., Ph.D.,

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ABSTRACT

The project entitled "IMPACT OF COVID-19 PANDEMIC ON DAILY AFFECT AND PARENTING WITH PSYCHOLOGICAL ASPECTS IN GRAPHS". Graph theory is the study of graphs, which are mathematical structures, used to model pair wise relations between objects from a certain collection. Graphs are among the most ubiquitous models of both natural and human-made structures. Graphs can be used to model many types of relations and processes in physical, biological, social and information systems. Complementary to graph transformation systems focusing on rule based in-memory manipulation of graphs are graph databases geared towards transaction safe, persistent storing and querying of graph-structured data.

In the impact of COVID-19 can be seen in every sphere of life. It forced many great nations to enforced lockdown thereby bringing everything to an abrupt halt for a certain period of time. This phenomenon has led to short term as well as long term psychosocial and mental health implications for children and adolescents. The various psychological problems and important effects on mental health as well as stress, anxiety, depression, frustration, uncertainty during COVID-19. An attempt to analyze the impact of COVID-19 on mental health and parenting with psychological aspects in graphs. This study covers a survey of UG and PG mathematics students and their parents in Sri Sarada College For Women(Autonomous), Tirunelveli, by taking sample of 84 of them below 23 age and 84 of them above 23 age. Mental health is more important to each person and it helps to overcome all pandemic situations.

Keywords: Psychological aspects, Impact of COVID-19, Mental health with Graphs.

A STUDY ON OPERATION RESEARCH IN THE FIELD OF CPM AND PERT

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

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CERTIFICATE

This is to certify that the project entitled **" A STUDY ON OPERATION RESEARCH IN THE FIELD OF CPM AND PERT"** is a bonafide work done by M.PRIYANKA of **Sri Sarada College for women (Autonomous)**,Tirunelveli-627 011, in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the year 2021-2022.

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DECLARATION

I hereby declare that the project done for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** on **"A STUDY ON OPERATION RESEARCH IN THE FIELD OF CPM AND PERT"** is my original work.

M.Priyanka

(M.PRIYANKA)

Signature of the Internal Guide

A STUDY ON OPERATION RESEARCH IN THE FIELD OF CPM AND PERT

NAME OF STUDENT: M. Priyanka

NAME OF INTERNAL GUIDE: Dr.(Smt.) V. Lavanya, M.Sc., B.Ed., M.Phil., Ph.D.,
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ABSTRACT

Operations Research (OR) is an analytical method of problem-solving and decisionmaking that is useful in the management of organizations. In operations research, problems are broken down into basic components and then solved in defined steps by mathematical analysis. Knowledge, innovations and technology are changing and hence decision-making in todays social and business environment has become a complex task give to little or no precedents. This problem is easily tackled by using Network Analysis in Operation Research.

Network models are applied to the management (planning, controlling and scheduling) of largescale projects. PERT/CPM techniques help in identifying delay and project critical path. This techniques improve projects co-ordination and enable the efficient use of resources. NETWORK Methods are used to determine time-cost, trade-off resources allocation and help in updating activities time.

The project consists of five chapters,

1. Preliminaries
2. Critical Path Method
3. Project Evaluation Review Technique
4. Network computations by using Critical Path Method
5. Applications of Network Analysis

In Chapter 1, In this Chapter CPM, PERT, Applications of CPM and PERT, basic step in CPM and PERT, Advantanges and disadvantages of CPM and PERT [3] are collected which we needed for subsequent chapters.

In Chapter 2, The concept of Critical Path, determination of float and slack time, determination of Critical Path are discussed.

In Chapter 3, The main objective in the analysis through PERT is to find out the completion for a particular event within specified date. The PERT approach takes into account the uncertainties. The three times values are associated with each activity.

In Chapter 4, Network Analysis for maximum possible bus routes [1],[4],[7],[8],[9],[17] from Tenkasi District to Sarada College, Ariyakulam has been analysed. While applying the CPM technique, a practical method of application Network Analysis has been highlighted. In this regard, the shortest path, minimum time, minimum cost, critical time, critical cost, critical path for the path from Tenkasi district to Sarada College, Ariyakulam has been found.

In Chapter 5, Application of Network Analysis [3],[5],[14] is used to find the critical path and shortest path from MCA Block to New Building in Sarada College. The Proposed Model gives alternate path for data transfer with minimum cost in Sarada College.

A STUDY ON MATHEMATICAL MODELLING OF THE GPS TRACKING SIGNAL

A project work report submitted to the
Department of Mathematics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

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CERTIFICATE

This is to certify that this project work titled **'A STUDY ON MATHEMATICAL MODELLING OF THE GPS TRACKING SIGNALS'** is a bonafide work of S. RAMYA of Final Year B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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DECLARATION

I do hereby declare that this project work titled "**A STUDY ON MATHEMATICAL MODELLING OF THE GPS TRACKING SIGNALS**" was carried out by me for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is my original work.

S. Ramya

(S. RAMYA)

A. Maheshwari

Signature of the Internal Guide

A STUDY ON MATHEMATICAL MODELLING OF GPS TRACKING SIGNALS

Name: S. Ramya, III B.Sc. Mathematics

Internal Guide Name: Dr. A. Mahalakshmi, M.Sc., M.Phil., Ph.D.,

Associate professor, Department of Mathematics.

ABSTRACT

The Global Positioning System (GPS) is a space-based radio navigation system that provides consistent and exact positioning, navigation, and timing services to civilian users on a continuous worldwide basis. Recently, there has been increasing interest within the potential user community of Global Positioning System (GPS) for high precision navigation problems such as aircraft non precision approach, river and harbor navigation, real-time or kinematic surveying. The work in this project will mainly focus on GPS segments, satellite, receiver and how to model a Mathematical expression for tracking GPS Signal using Phase Locked Loop filter receiver. Mathematical formulation of the filter is of two types: the first order and the second order loops are tested successively in order to find out a compromised on which one best provide a zero steady state error that will likely minimize noise bandwidth to tracks frequency modulated signal and returns the phase comparator characteristic to the null point. Then the Z-transform is used to build a phase-locked loop in software for digitized data. Finally, a Numerical Methods like Gaussian elimination, triangulation, trilateration and least square method to provide the exact location or the tracking of a GPS in the space for a given a course/acquisition (C/A) code.

FUZZY AND FUZZY MAGIC LABELING IN GRAPHS

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

U.SELVAPRIYA - 2019UMA32

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CERTIFICATE

This is to certify that this project work titled **'FUZZY AND FUZZY MAGIC LABELING IN GRAPHS'** is a bonafide work of U.SELVAPRIYA of Final B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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Sri Sarada College for Women • Tirunelveli-627 011 • COE AUTONOMOUS 3/1/22

DECLARATION

I do hereby declare that this project work titled "**FUZZY AND FUZZY MAGIC LABELING IN GRAPHS**" was carried out by all of myself for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is my original work.

U. Selvapriya

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Signature of the Internal Guide

FUZZY AND FUZZY MAGIC LABELING IN GRAPHS

Name of student: U.Selvapriya

Internal Guide Name: Selvi A.Shunmugapriya, M.Sc.,M.Phil.,
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ABSTRACT:

A graph G = (V E) is a set of ordered pairs of vertices and edges. A graph labeling is an assignment of integers to the vertices or edges or both subject to certain conditions. Fuzzy set is defined by the interval [0,1]. A graph is said to be fuzzy labeling graph if it has fuzzy labeling. In this project, we are discussed about fuzzy and fuzzy magic labeling in graphs. We proved the fuzzy labeling for some standard and special graphs. We also the existence of fuzzy labeling in trees and discuss about the properties of fuzzy labeling in trees. Also we discussed about the fuzzy magic labeling in graphs and its applications.

Keywords: Fuzzy, magic, labeling, graphs,trees.

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A STUDY ON THE APPLICATIONS OF VEDIC NUMERICAL CODE

A project work report submitted to the

Department of Mathematics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted in December 2021 by

M. SUSMITHA – 2019UMA39

Under the Guidance of

Dr. K. Ramalakshmi, M.Sc., M.Phil., Ph.D.,

Associate Professor, Department of Mathematics

SRI SARADA COLLEGE FOR WOMEN

(An Autonomous Institution)

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(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'A STUDY ON THE APPLICATIONS OF VEDIC NUMERICAL CODE'** is a bonafide work of M. SUSMITHA of Final Year B.Sc., Mathematics, Sri Sarada College for Women (Autonomous), Tirunelveli – 627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN MATHEMATICS** during the academic year 2021 - 22.

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INTERNAL GUIDE

4/1/22

EXTERNAL EXAMINER

Dr. N. MEENA
ASSISTANT PROFESSOR
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Sri Sarada College for Women (Autonomous) COE Tirunelveli-627 011. 3/1/22

DECLARATION

I do hereby declare that this project work titled "**A STUDY ON THE APPLICATIONS OF VEDIC NUMERICAL CODE**" was carried out by myself for the award of the degree of **BACHELOR OF SCIENCE IN MATHEMATICS** is my original work.

M. Susmitha

(M. SUSMITHA)

K. Ramesh

Signature of the Internal Guide

A STUDY ON APPLICATIONS OF VEDIC NUMERICAL CODE

Name of the Students: M. Susmitha, III B.Sc. Mathematics

Internal Guide Name: Dr.K.Ramalakshmi, M.Sc., M.Phil., Ph.D.,

Associate Professor, Department of Mathematics

ABSTRACT

In Numerical code, Aryabhata a Indian mathematician plays a major role in astronomy, arithmetic, table of sines and aryabhatiya numerals, etc., His works makes a fundamental value for many modern development like sine table, revolution of planets, etc. Aryabhatiya numerals and revolution of planets in one mahayuga are studied. Vedic numeric code (or Katapaya code) is a system of giving numbers to Dravidan languages and decoding them. This numbering gives high poet's knowledge in advanced number theory. This coding is studied with some examples. Aryabhata was the first Mathematician and a famous Astronomer whose contribution to the fields of Mathematics and Astronomy is incredible and all his works were in Sanskrit. Mahakavi Kalidasa was a classical Sanskrit author who is an ancient dramatist and a play writer in India. Kalidasa was a great Sanskrit scholar whose works have hidden number theoretical concept in it. Vedic numeric code not only decodes verse but also has magic square. Nagarjuna a Indian metallurgist found diabolic magic square, where the sum of odd and even number can be obtained. Bhuta Sankhya Paddhathi and Nagarjuna Magic Square concepts are discussed in detail. Sri Desika was a greatest Acharya in vedic period, who was an unequalled versatile genius in various subjects like philiosophy, Literature, Puranas, etc., has a touchstone with SubhaAshita Neevi verses. His Papa Nivartani has similarity in 'SAROS' of Chaldeans. Many verses in Gita or inscriptions can be decoded by vedic numeric code. Nor many can play with numbers and verses in synchronizing manner that Sri Desika's mastery touch does in his literary and devotional aspects. The usage of Mathematics in his composition would make one wonder whether it is for mathematics that the composition were made or vice-verse. Some applications of Vedic numerical code in Sri Desika's verse are studied in this project work.

Keywords: Vedic numerical code, Bhuta Sankhya, Nagarjuna magic square.

COMPREHENSIVE STUDY ON STRUCTURAL AND OPTICAL ANALYSIS OF AMINO ACID DOPED CRYSTALS

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

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Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)
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CERTIFICATE

This is to certify that this project work titled **'COMPREHENSIVE STUDY ON STRUCTURAL AND OPTICAL ANALYSIS OF AMINO ACID DOPED CRYSTALS'** is a bonafide work of M.Abinaya, M.Akila, C.Ananthi of Final B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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S. Magara Jothi Lakshmi 23/12/2021.

HEAD OF THE DEPARTMENT

HEAD, DEPARTMENT OF PHYSICS
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24/12/2021

INTERNAL GUIDE

(Dr. S. Baboobhai)

U. Balasubramanian 4/1/22

EXTERNAL EXAMINER

Dr. K. BALASUBRAMANIAN M.Sc., M.Phil., Ph.D.
Associate Professor
PG & Research Department of Physics
The MDT Hindu College
Tirunelveli - 627 010.

DECLARATION

We hereby declare that this project work titled '**COMPREHENSIVE STUDY ON STRUCTUTRAL AND OPTICAL ANALYSIS OF AMINO ACID DOPED CRYSTALS'** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is our original work.

M. Abinaya

(M. ABINAYA)

M. Akila

(M. AKILA)

C. Ananthi

(C. ANANTHI)

Signature of the Internal Guide

(Dr. S. BAGAVATHY)

ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary **Yatiswari Saravanabhavapriya Amba's** blessings. We wish to convey our respect to our Principal **Dr. (Smt) N.Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D.,** for her ceaseless support.

With deep sense of respect, we profusely thank **Smt. S. Magara Jothi Lakshmi, M.Sc., M.Phil., CGT.,** Head, Department of Physics for her constant encouragement.

We submit our honest and humble reverence to our guide **Dr.S.Bagavathi M.Sc., M.Phil., Ph.D.,** for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

COMPARATIVE STUDY ON STRUCTURAL AND OPTICAL ANALYSES OF L -PROLINE LITHIUM CHLORIDE MONOHYDRATE CRYSTAL AND L-PROLINE LITHIUM SULPHATE MONOHYDRATE CRYSTAL

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

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Under the Guidance of
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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)
Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)
Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,
TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'COMPARITIVE STUDY ON STRUCTURAL AND OPTICAL ANALYSIS OF L-PROLINE LITHIUM CHLORIDE MONOHYDRATE CRYSTAL AND L-PROLINE LITHIUM SULPHATE MONOHYDRATE CRYSTALS' is** a bonafide work of G.Akshaya and E.Anitha of Final B.Sc., PHYSICS Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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21/12/2021

HEAD, DEPARTMENT OF PHYSICS
SRI SARADA COLLEGE FOR WOMEN
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INTERNAL GUIDE

21/12/2021

(Dr. S. BAGAVATHY)

EXTERNAL EXAMINER

DECLARATION

We hereby declare that this project work titled '**COMPARITIVE STUDY ON STRUCTURAL AND OPTICAL ANALYSIS OF L-PROLINE LITHIUM CHLORIDE MONOHYDRATE CRYSTAL AND L-PROLINE LITHIUM SULPHATE MONOHYDRATE CRYSTALS**' was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is our original work.

G. Akshaya

(G. AKSHAYA)

E. Anitha

(E.ANITHA)

Signature of the Internal Guide

ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary **Yatiswari Saravanabhavapriya Amba's** blessings. We wish to convey our respect to our Principal **Dr. (Smt) N.Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D.,** for her ceaseless support.

With deep sense of respect, we profusely thank **Smt. S. Magara Jothi Lakshmi, M.Sc., M.Phil., CGT.,** Head, Department of Physics for her constant encouragement.

We submit our honest and humble reverence to our guide **Dr.S.Bagavathi M.Sc., M.Phil., Ph.D.,** for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

ROCKER BOGIE MECHANISM

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2019-2021 by

ASHMA.R	2019UPH06
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GEETH VAISHNAVI. J	2019UPH09
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Under the Guidance of
Dr. N. Booma Devi, M.Sc., M.Phil., Ph.D.,
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Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
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TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that the project titled, **"ROCKER BOGIE MECHANISM"** a bonafide work done by ASHMA. R, BABYSHALINI. M, BHARATHI. U, GEETH VAISHNAVI. J,INDIRAPRIYADHARSHINI. C of Final B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunellveli-11in partial fulfilment of the requirements for the award ofdegree of **BACHELOR OF SCIENCE IN PHYSICS** during the Year 2021-2022.

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S. Magara Jothilakshmi
22/12/2021.

HEAD OF THE DEPARTMENT

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N. Boomadevi.

INTERNAL GUIDE

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DECLARATION

We do hearby declare that this project entitled **"ROCKER BOGIE MECHANISM"**was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is our original work.

R. Ashma.

ASHMA.R

M. Babyshalini

BABYSHALINI .M

U. Bharathi

BHARATHI.U

J. Geeth Vaishnavi

GEETH VAISHNAVI.J

C Indira Priyadharshini

INDIRA PRIYADHARSHINI.C

ACKNOWLEDGEMENT

We thank God Almighty for his abundant grace which have let us to finish our project work successfully.

We express our deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba's blessings. We wish to convey our respect to our Principal Dr.(Smt) N. Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, we profusely thank Smt. S. Magara Jothi Lakshmi M.Sc., M.Phil., DGT., Head, Department of Physics for her constant encouragement.

We all submit our honest and humble reverence to our guide Dr. N. Booma Devi. M.Sc., M.Phil., Ph.D., for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

GROWTH AND OPTICAL CHARACTERISATION OF THIOUREA CRYSTALS

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

M. INDUMATHI - 2019UPH11
S.KANIMOZHI - 2019UPH12
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Under the Guidance of
Dr.S.MUTHURANI, M.Sc., M.Phil., Ph.D.,
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Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
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CERTIFICATE

This is to certify that this project work titled **'GROWTH AND OPTICAL CHARACTERISATION OF THIOUREA CRYSTAL'** is a bonafide work of M.INDUMATHI, S.KANIMOZHI and K.KIRUTHIKA of Final B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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S. Magara Jothi Lakshmi
22/12/2021

HEAD OF THE DEPARTMENT

HEAD, DEPARTMENT OF PHYSICS
SRI SARADA COLLEGE FOR WOMEN
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INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We hereby declare that this project work titled **"GROWTH AND OPTICAL CHARACTERISATION OF THIOUREA CRYSTALS"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS**is our original work.

M. Indumathi
(M.INDUMATHI)

S. Kanimozhi
(S.KANIMOZHI)

K. Kiruthika
(K.KIRUTHIKA)

Signature of the Internal Guide

COMPREHENSIVE REVIEW OF VIRAL PROTEIN STRUCTURE ANALYSIS

A project work report submitted to the

Department of Physics

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

S.KEERTHIKA BALA - 2019UPH13
V.KOWSALYA DEVI - 2019UPH15

Under the Guidance of

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Assistant Professor, Department of Physics
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CERTIFICATE

This is to certify that this project work titled **'A COMPERHENSIVE REVIEW OF VIRAL PROTEIN STRUCTURE ANALYSIS'** is a bonafide work of, S.KEERTHIKA BALA and V.KOWSALYA DEVI of Final B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We hereby declare that this project work titled **'A COMPERHENSIVE REVIEW OF VIRAL PROTEIN STRUCUTRE ANALYSIS'** was carried out by myself for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is my original work.

S. Keerthika Bala

(S.KEERTHIKA BALA)

V. Kowsalya Devi

(V.KOWSALYA DEVI)

Signature of the Internal Guide

DETERMINATION OF PLANCK'S CONSTANT USING DIFFERENT LIGHT EMITTING DIODES

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

B. LAKSHMI - 2019UPH16
M.MADHURI - 2019UPH17
C.MANJU - 2019UPH18
D.MUGUNTHA - 2019UPH19
M.MUTHAMILSELVI - 2019UPH20

Under the Guidance of
Smt. S. Magara Jothi Lakshmi M.Sc., M.Phil., DGT.,
Assistant Professor and Head, Department of Physics
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(An Autonomous Institution)
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)
Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)
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TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled "**DETERMINATION OF PLANCK CONSTANT USING DIFFERENT LED'S**" is a Bonafide work of B. Lakshmi, M. Madhuri, C. Manju, D. Muguntha, and M. Muthamilselvi of Final B.Sc., Physics, Sri Sarada college for women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of **DEGREE OF BACHELOR OF SCIENCE PHYSICS** during the academic year 2021 - 2022.

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(Autonomous)
TIRUNELVELI - 627 011

S. Magara Jothi Lakshmi
21/12/2021

HEAD OF THE DEPARTMENT

HEAD, DEPARTMENT OF PHYSICS
SRI SARADA COLLEGE FOR WOMEN
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S. Magara Jothi Lakshmi
21/12/2021

INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We hear by declare that this project work titled "DETERMINATION OF PLANCK CONSTANT USING DIFFERENT LIGHT EMITTING DIODES" was carried out by all of as jointly for the award of the degree of BACHALOR OF SCIENCE IN PHYSICS is our original work.

B. Lakshmi
(B. LAKSHMI)

M. Madhuri
(M. MADHURI)

C. Manju
(C. MANJU)

D. Muguntha
(D.MUGUNTHA)

M. Muthamilselvi
(M.MUTHAMILSELVI)

Signature of the Internal Guide S. Nagarajathi Lakshmi
21/12/2021

ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba's blessings. We wish to convey our respect to our Principal Dr. (Smt)N. Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, we profusely thank Smt. S. Magara Jothi Lakshmi M.Sc., M.Phil., DGT., Head, Department of Physics for her constant encouragement. She is my supervisor also, again I am extremely grateful to thank for her consistent review, constructive suggestion and critical interpretation throughout the work which enable me to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

A STUDY ON CUMULATIVE WIND POWER INSTALLATION AND WIND ENERGY DEVELOPMENT IN INDIA

A project work report submitted to the

DEPARTMENT OF PHYSICS

In partial fulfilment of the requirements for the degree of

BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

M.SANGEETHA-2019UPH26

P.SANTHIYA -2019UPH27

Under the Guidance of

K.NIRANJANA DEVI, M.Sc., M.phil.

Assistant professor, Department of physics

SRI SARADA COLLEGE FOR WOMEN

(An Autonomous Institution)

(Affiliated to Manonmaniam sundaranar University, Tirunelveli- 627012)

Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC

(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'A STUDY ON CUMULATIVE WIND POWER INSTALLATION AND WIND ENERGY DEVELOPMENT IN INDIA"**is a bonafide work of M..SANGEETHA, and P.SANTHIYA of Final Year B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli – 627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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HEAD OF THE DEPARTMENT

22/12/2021

HEAD, DEPARTMENT OF PHYSICS
SRI SARADA COLLEGE FOR WOMEN
(AUTONOMOUS)
TIRUNELVELI-627 011.

INTERNAL GUIDE

22/12/2021

EXTERNAL EXAMINER

DECLARATION

We do hereby declare that this project work titled "**A STUDY ON CUMULATIVE WIND POWER INSTALLATION AND WIND ENERGY DEVELOPMENT IN INDIA**" carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is our original work.

M. Sangeetha

(M.SANGEETHA)

P. Santhiya

(P.SANTHIYA)

K. Nirmala 22/12/2021

Signature of the Internal Guide

ACKNOWLEDGEMENT

We express my deep gratitude to our Secretary **Yatiswari Saravanabhavapriya Amba's** blessings. We wish to convey our respect to our **Principal Dr. (Smt) N. Kamala, M.Com., M.Phil., NET, PGDCA., Ph.D.,** for her ceaseless support.

With deep sense of respect, we profusely thank **Mrs.S.Magara jothi Lakshmi M.sc.,M.phil.,** Head, Department of Mathematics for her constant encouragement.

We submit my honest and humble reverence to my guide **K.Niranjana devi M.sc.,M.phil.,** for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled me to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, my beloved parents and siblings at home and my classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

AN EVOLUTION IN THE FIELD OF QUANTUM ENTANGLEMENT, HIGGS BOSON AND ITS APPLICATIONS

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

P. SHARUKESI - 2019UPH28

Under the Guidance of
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Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
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TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'AN EVOLUTION IN THE FIELD OF QUANTUM ENTANGLEMENT AND HIGGS BOSON AND ITS APPLICATIONS'** is a bonafide work of P. SHARUKESI of Final B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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S. Magara Jothi Lakshmi 22/12/2021.

HEAD OF THE DEPARTMENT

HEAD, DEPARTMENT OF PHYSICS
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(AUTONOMOUS)
TIRUNELVELI-627 011.

K. Niranjani 22/12/2021

INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

I do hereby declare that this project work titled **"AN EVOLUTION IN THE FIELD OF QUANTUM ENTANGLEMENT AND HIGGS BOSON AND ITS APPLICATIONS"** was carried out by me for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is my original work.

P. Sharukesi

SHARUKESI P.

K. Nirmjuhadi 22/12/2021

Signature of the Internal Guide

ACKNOWLEDGEMENT

I express my deep gratitude to my Secretary Yatiswari Saravanabhavapriya Amba's blessings. I wish to convey my respect to my Principal Dr.(Smt) N.Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, I profusely thank Smt. S. Magara Jothi Lakshmi, M.Sc., M.Phil., CGT., Head, Department of Physics for her constant encouragement.

I submit my honest and humble reverence to my guide Ms. K. Niranjana Devi M.Sc., M.Phil., DGT., for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled me to complete this project harmoniously and successfully.

I further acknowledge the inquisitive interactions of faculty members at the department, my beloved parents and siblings at home and my classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

A STUDY ON ENERGY REGENERATION TECHNOLOGY BASED ON HYDRAULIC SCISSOR LIFT

A project work report submitted to the
Department of Physics
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

S.SIVAPRIYA-2019UPH29

M.SOWMIYA-2019UPH30

Under the Guidance of
K. Niranjana Devi, M.Sc., M.Phil.
Assistant Professor, Department of physics
SRI SARADA COLLEGE FOR WOMEN
(An Autonomous Institution)
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)
Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with „A" Grade by NAAC
(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)
Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,
TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'A STUDY ON ENERGY REGENERATION TECHNOLOGY BASED ON HYDRAULIC SCISSOR LIFT'** is a confide work of S.SIVAPRIYA AND M.SOWMIYA of Final B.Sc., physics, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

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HEAD, DEPARTMENT OF PHYSICS
SRI SARADA COLLEGE FOR WOMEN
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TIRUNELVELI-627 011.

INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We do hereby declare that this project work titled **"A STUDY ON ENERGY REGENERATION TECHNOLOGY BASED ON HYDRAULIC SCISSOR LIFT"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE PHYSCIS IN** is our original work.

S. Sivapriya

(S.SIVAPRIYA)

M. Sowmiya

(M.SOWMIYA)

K. Niranjani 21/12/2021

Signature of the Internal Guide

ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba‟s blessings. We wish to convey our respect to our Principal Dr.(Smt) N.Kamala, M.Com., M.Phil., NET., PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, we profusely thank S. Magara Jothi Lakshmi M.Sc., M.Phil. Head, Department of physics for her constant encouragement.

We all submit our honest and humble reverence to our guide. K. Niranjana Devi, M.Sc., M.Phil. For her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

A STUDY ON STELLAR EVOLUTION

A project work report submitted to the
Department of Physics
in partial fulfillment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

A.J .SRIDEVI - 2019UPH31

S.SRISARANYA DEVI - 2019UPH32

M. SRUTHI - 2019UPH33

Under the Guidance of
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Assistant Professor, Department of Physics

SRI SARADA COLLEGE FOR WOMEN
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CERTIFICATE

This is to certify that this project work titled **'A STUDY ON STELLAR EVOLUTION '** is a bonafide work of A.J SRI DEVI, S.SRISARANYA DEVI, M.SURUTHI of Final Year B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli – 627011 in partial fulfilment of the requirements for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021 - 22.

S. Nagara Jothi Lakshmi 22/12/2021.

22/12/2021

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EXTERNAL EXAMINER

DECLARATION

We do hereby declare that this project work titled **"A STUDY ON STELLAR EVOLUTION"** was carried out by ourselves for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is our original work.

(S.SRISARANYA DEVI, A.J. SRIDEVI, M.SURUTHI)

22/12/2024

Signature of the Internal Guide

ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba's blessings. We wish to convey our respect to our Principal Dr.(Smt) N.Kamala, M.Com., M.Phil., NET, PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, we profusely thank Smt.Magara Jothi Lakshmi, M.Sc., M.Phil., DGT., Head, Department of Physics for her constant encouragement.

We submit our honest and humble reverence to our guide Dr.E.S.Sowbakkiyavathi, M.Sc., Ph.D., for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

A STUDY ON THE AURORA POLARIS

A project work report submitted to the
Department of Physics
in partial fulfillment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN PHYSICS

Submitted in December 2021 by

P.A.THANA RUBENE – 2019UPH34

Under the Guidance of

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TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled '**A STUDY ON THE AURORA POLARIS**' is a bonafide work of P.A. THANA RUBENE of Final Year B.Sc., Physics, Sri Sarada College for Women (Autonomous), Tirunelveli – 627011 in partial fulfillment of the requirements for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** during the academic year 2021-2022.

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S. Nagara Jothi Lakshmi
22/12/2021

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22/12/2021

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DECLARATION

I do hereby declare that this project work titled **"A STUDY ON THE AURORA POLARIS"** was carried out by myself for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS** is my original work.

P.A. Thana Rubene

(P.A. THANA RUBENE)

22/12/2021

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ACKNOWLEDGEMENT

I express my deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba's blessings. I wish to convey my respect to our Principal Dr.(Smt.)N.Kamala, M.Com., M.Phil., NET, PGDCA., Ph.D., for her ceaseless support.

With a deep sense of respect, I profusely thank Smt. Magara Jothi Lakshmi, M.Sc.,M.Phil.,DGT., Head, Department of Physics for her constant encouragement.

I submit my honest and humble reverence to my guide Dr.E.S.Sowbakkiyavathi, M.Sc.,Ph.D., for her consistent review, constructive suggestion, and critical interpretation throughout the work which enabled me to complete this project harmoniously and successfully.

I further acknowledge the inquisitive interactions of faculty members at the department, my beloved parents and siblings at home, and my classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

VITAMIN C ESTIMATION IN LOCALLY AVAILABLE VEGETABLES BY DYE TITRATION METHOD

A project work report submitted to the
Department of chemistry
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGISTER NUMBER
E. MAHALAKSHMI	**- 2019UCH13**
B. MUNEESWARI	**- 2019UCH15**
R. VENGADALAKSHMI @ THULASI	**- 2019UCH29**

Under the Guidance of
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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)
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Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,
TIRUNELVELI-627 011, TAMIL NADU, INDIA.

DECLARATION

We do hereby declare that this project work titled **"VITAMIN C ESTIMATION IN LOCALLY AVAILABLE VEGETABLES BY DYE TITRATION METHOD"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

R. Vengadalakshmi @ Thulasi

(E. MAHALAKSHMI) **(B. MUNEESWARI)** **(R. VENGADALAKSHMI @ THULASI)**

A. Kalpana Pushpam

Signature of the Internal Guide

PHYSICO CHEMICAL ANALYSIS OF WATER SAMPLESTAKEN FROM KALLIDAI KURICHI AREA.

A project work report submitted to the

Department of Chemistry

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGISTER NUMBER
B. JOTHIKA	**- 2019UCH08**
S. P. KARTHIKAA	**- 2019UCH10**
S.KAVITHA PRIYADHARSHNI	**- 2019UCH11**

Under the guidance of

Smt. A. KALPANA PUSHPAM M.Sc., M.Phil.,

Assistant Professor, Department of Chemistry

SRI SARADA COLLEGE FOR WOMEN

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)

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Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **'PHYSICO CHEMICAL ANALYSIS OF WATER SAMPLES TAKEN FROM KALLIDAI KURICHI AREA'** is a bonafide work of B.JOTHIKA, S.P.KARTHIKAA, S. KAVITHA PRIYADHARSHINI of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 2022.

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INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We do hereby declare that this project work titled **'PHYSICO CHEMICAL ANALYSIS OF WATER SAMPLES TAKEN FROM KALLIDAI KURICHI AREA'** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

B. Jothika

B. JOTHIKA

S.P. KARTHIKAA

S. Kavitha Priyadharshni

S.KAVITHA PRIYADHARSHNI

A. Kalpana Rajkumar.

Signature of the Internal Guide

GREEN SYNTHESIS AND CHARACTERIZATION OF ZIRCONIUM DIOXIDE NANOPARTICLES USING VINCA ROSEA PLANT EXTRACT

A project work report submitted to the
Department of chemistry
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGISTER NUMBER
S. ABIRAMI	**- 2019UCH02**
P. AMIRTHADHARA	**- 2019UCH03**
M. GNANAKKARAI SWATHY	**- 2019UCH06**

Under the Guidance of

Smt. A. KALPANA PUSHPAM M.Sc., M.Phil.,

Assistant Professor, Department of chemistry

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Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,
TIRUNELVELI-627 011, TAMIL NADU, INDIA.

CERTIFICATE

This is to certify that this project work titled **"GREEN SYNTHESIS AND CHARACTERIZATION OF ZIRCONIUM DIOXIDE NANOPARTICLES USING VINCA ROSEA LEAF EXTRACT"** is a bonafide work of S. ABIRAMI, P.AMBETHADHARA, M. GNANAKKARAI SWATHY of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 2022.

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(Autonomous)
TIRUNELVELI-627 011.

INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

We do hereby declare that this project work titled **"GREEN SYNTHESIS AND CHARACTERIZATION OF ZIRCONIUM DIOXIDE NANOPARTICLES USING VINCA ROSEA PLANT EXTRACT"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work

S. Abirami
(S.ABIRAMI)

P. Amirthadhara
(P.AMIRTHADHARA)

M. Gnanakkaraiswathy
(M. GNANAKKARAISWATHY)

A. Kalpana Rathnam
Signature of the Internal Guide

COLORIMETRIC ESTIMATION OF IRON CONTENT IN VARIOUS LEAVES AND SPINACH VARIETIES

A project work report submitted to the

Department of Chemistry

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGIESTER NUMBER
S.SELVALAKSHMI	**2019UCH24**
D.STEPHY	**2019UCH26**
M.VIJAYALAKSHMI	**2019UCH30**

Under the Guidance of

Smt. S. Rajeswari, M.Sc., M.Phil.,

Assistant Professor, Department of Chemistry

SRI SARADA COLLEGE FOR WOMEN

(An Autonomous Institution)

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)

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(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI-627 011, TAMIL NADU, INDIA.

DECLARATION

We do hereby declare that this project work titled **"COLORIMETRIC ESTIMATION OF IRON CONTENT IN VARIOUS LEAVES AND SPINACH VARIETIES"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

S. Selvalakshmi

(S.SELVALAKSHMI)

D. Stephy

(D.STEPHY)

M.Vijayalakshmi

(M.VIJAYALAKSHMI)

B. Priyamala

Signature of the Internal Guide

CERTIFICATE

This is to certify that this project work titled **"COLORIMETRIC ESTIMATION OF IRON CONTENT IN VARIOUS LEAVES AND SPINACH VARIETIES"** is a bonafide work of S.SELVALAKSHMI, D.STEPHY and M.VIJAYALAKSHMI of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 22.

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INTERNAL GUIDE

EXTERNAL EXAMINER

COMPARATIVE ANALYSIS OF CAROTENOIDS IN VARIOUS VEGETABLESAND FRUITS BY COLORIMETRY

A project work report submitted to the

Department of Chemistry

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

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGIESTER NUMBER
R.MUTHUMEENAKSHI	**2019UCH16**
K. PON ESAKKIAMMAL	**2019UCH17**
M.SELVALAKSHMI	**2019UCH23**

Under the Guidance of

Smt. S. Rajeswari, M.Sc., M.Phil.,

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SRI SARADA COLLEGE FOR WOMEN

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(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI-627 011, TAMIL NADU, INDIA.

DECLARATION

We do hereby declare that this project work titled **"COMPARATIVE ANALYSIS OF CAROTENOIDS IN VARIOUS VEGETABLES AND FRUITS BY COLORIMETRY"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCEIN CHEMISTRY** is our original work.

(R.MUTHUMEENAKSHI) **(K.PON ESAKKIAMMAL)** **(M.SELVALAKSHMI)**

Signature of the Internal Guide

CERTIFICATE

This is to certify that this project work titled **"COMPARATIVE ANALYSIS OF CAROTENOIDS IN VARIOUS VEGETABLES AND FRUITS BY COLORIMETRY"** is a bonafide work of R.MUTHUMEENAKSHI, K.PON ESAKKIAMMAL and M.SELVALAKSHMI of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 22.

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TIRUNELVELI 627 011.

INTERNAL GUIDE

EXTERNAL EXAMINER

CERTIFICATE

This is to certify that this project work title **"ANALYSIS OF FOOD ADULTERANTS IN VARIOUS BRANDS OF MILK SAMPLES"** is a bonafide work of, N. BANUMATHY and S. KAMALI DEVI of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli- 627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 22.

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TIRUNELVELI-627 011.

INTERNAL GUIDE

EXTERNAL EXAMINER

ANALYSIS OF FOOD ADULTERANTS IN VARIOUS BRANDS OF MILK SAMPLES

A project work report submitted to the
Department of chemistry
in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME		REGISTER NUMBER
N.BANUMATHY	-	**2019UCH05**
S. KAMALI DEVI	-	**2019UCH09**

Under the Guidance of

Smt. S. RAJESWARI M.Sc., M.Phil.,
Assistant Professor, Department of Chemistry
SRI SARADA COLLEGE FOR WOMEN
(An Autonomous Institution)
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli-627012)
Institution recognized u/s 2(f) and 12(B) of UGC & Re- accredited with 'A' Grade by NAAC
(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)
Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,
TIRUNELVELI-627 011, TAMIL NADU, INDIA.

DECLARATION

We do hereby declare that this project work titled **"ANALYSIS OF FOOD ADULTERANTS IN VARIOUS BRANDS OF MILK SAMPLES"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

(N. BANUMATHY) **(S.KAMALI DEVI)**

Signature of the Internal Guide

A STUDY ON THE ESTIMATION OF PROTEIN IN LEGUMES BY LOWRY'S METHOD

A project work report submitted to the

Department of Chemistry

In partial fulfillment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME		REGISTER NUMBER
S. MADHUBALA	-	**2019UCH12**
S. SELVABHARATHI	-	**2019UCH22**
U. YUVARANI	-	**2019UCH31**

Under the Guidance of

Smt. K. LAKSHMI M.Sc., M. Phil., DGT,

Assistant Professor, Department of Chemistry

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(A Branch of Sri Ramakrishna Tapovanam, Tirupparaithurai)

Ariyakulam, Maharaja Nagar Post, Thoothukudi NH,

TIRUNELVELI - 627 011, TAMIL NADU, INDIA.

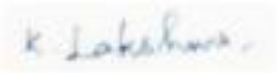
DECLARATION

We do hereby declare that this project work titled **"A STUDY ON THE ESTIMATION OF PROTEIN IN LEGUMES BY LOWRY'S METHOD"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY is** our original work.

(S. MADHUBALA)

(S. SELVABHARATHI)

(U. YUVARANI)



Signature of the Internal Guide

CERTIFICATE

This is to certify that this project work titled **'A STUDY ON THE ESTIMATION OF PROTEIN IN LEGUMES BY LOWRY'S METHOD'** is a bonafide work of S. MADHUBALA, S. SELVABHARATHI and U. YUVARANI of Final B.Sc., Chemistry, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 22.

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SRI SARADA COLLEGE FOR WOMEN
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TIRUNELVELI-627 011.

INTERNAL GUIDE

EXTERNAL EXAMINER

TITRIMETRIC ESTIMATION OF CALCIUM FROM DIFFERENT MILK SAMPLES FROM AMBASAMUTHIRAM TALUK

A project work report submitted to the
Department of Chemistry
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

NAME	REGISTER NUMBER
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S. ANJALI	**2019UCH04**
S. JENIFER SANDHIYA	**2019UCH07**

Under the Guidance of
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DECLARATION

We do hereby declare that this project work titled **"TITRIMETRIC ESTIMATION OF CALCIUM FROM DIFFERENT MILK SAMPLES FROM AMBASAMUTHIRAM TALUK"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

P. ABIRAMI **S. ANJALI** **S. JENIFER SANDHIYA**

K. Lakshmi

Signature of the Internal Guide

CERTIFICATE

This is to certify that this project work titled "**TITRIMETRIC ESTIMATION OF CALCIUM FROM DIFFERENT MILK SAMPLES FROM AMBASAMUTHIRAM TALUK**" is a bonafide work of P.ABIRAMI,S ANJALI and S.JENIFER SANDHIYA of Final B.Sc., Chemistry, Sri Sarada College for Women (Autoconomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN CHEMISTRY** during the academic year 2021 - 22.

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INTERNAL GUIDE

EXTERNAL EXAMINER

A STUDY ON THE DETERMINATION OF VITAMIN C CONTENT IN VARIOUS FRUIT JUICES

A project work report submitted to the

Department of Chemistry

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

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DECLARATION

We do hereby declare that this project work titled **"A STUDY ON THE DETERMINATION OF VITAMIN C CONTENT IN VARIOUS FRUIT JUICES"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

C Sivalevitha N. Velammal.

(C. SIVALEVITHA) **(N. VELAMMAL)**

V Rajarajeswari

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INTERNAL GUIDE

EXTERNAL EXAMINER

PLANT MEDIATED SYNTHESIS AND CHARACTERISATION OF TITANIUM DOPED COPPER OXIDE NANOPARTICLES USING ACALYPHA INDICA LEAF EXTRACT FOR ITS ANTIOXIDANT ACTIVITIES

A project work report submitted to the

DEPARTMENT OF CHEMISTRY

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CHEMISTRY

Submitted in December 2021 by

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DECLARATION

We do hereby declare that this project work titled **"PLANT MEDIATED SYNTHESIS AND CHARACTERISATION OF TITANIUM DOPED COPPER OXIDE NANOPARTICLES USING ACALYPHA INDICA LEAF EXTRACT FOR ITS ANTIOXIDANT ACTIVITIES"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN CHEMISTRY** is our original work.

(R.RAJESHWARI)

(V.N.RENUKA)

(T.SANTHIYA)

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INTERNAL GUIDE

EXTERNAL EXAMINER

CASINO GAME

A project work report submitted to the

Department of Computer Science

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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This is to certify that this project work titled **'CASINO GAME'** is a bonafide work of **LSUBBULAKSHMI, S.SWETHA, T.VIJAYALAKSHMI** of Final B.Sc., Computer Science, Sri Sarada College for Women (Autonomous),Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** during the academic year 2021 - 22.

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We do hereby declare that this project work titled **"CASINO GAME"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** is our original work.

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ABSTRACT

This project keeps track of all the information about the player name, deposit amount, bid amount and all the information about game. This project is create with the help of C++ platform. C++ is a compiled language with implementations of it's available on many platforms and provided by various organizations. Today C++ is still very appreciated for its notable portability which allows developers to create programs that can run on different operating systems or platforms very easily. Despite being a high-level language, since C++ is still close to C it can be used for low-level manipulation due to its close relation with machine language.Bjarne Stroustrup developed C++ at Bell Labs in the early 1980s to merge the best advantages of several other languages. The player first enter his name, deposit amount then enter a bid amount. The system contains database where all the information will be stored safely. The system is user friendly and error free. In Casino we have to guess a number and if the number is matched with the Winning Number or Random Number than you will win the Lots of Money. Here in the programming language we have a random number instead of Guess the number is real life. Let explanation our code step by step, First we will Take a Username and total amount of Money in Deposit, Now player can play a Casino Game or Number Guessing Game but before playing a game player need to Bid for every time. For example suppose I am a Player My Name is Ghanendra and I have total 5000$ Money. I deposited My total money and Strat playing a Casino Game or Number Guessing Game First I took a Bid 1000$ and I guess the Number 7(Between 1 to 10) if the random number generated by computer is 7 then I can win 10 times of My Bid amount and if I lose My remaining Money is 4000$. Now I can play More until I have a single penny or maybe I can Win or Maybe not.

WEBSITE FOR DEPARTMENT OF COMPUTER SCIENCE

A project work report submitted to the

Department of Computer Science

in partial fulfillment of the requirements for the

Award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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S. NANDHINI - 2019UCS17

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INTERNAL GUIDE

4/1/22

External Examiner

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DECLARATION

We do hereby declare that this project worktitled" WEBSITE **FOR DEPARTMENT OF COMPUTER SCIENCE"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER SCIENCE** is our original work.

B. Gomathi Bala

B. GOMATHI BALA

S. Nandhini

S. NANDHINI

K. Veeralakshmi

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B. Ramadevi

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ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary **Yatiswari SaravanabhavapriyaAmba's** blessings. We are greatly indebted to **Dr. (Smt)N. Kamala, M.Com., M.Phil., NET., PGDCA., DGT., Ph.D.,** for her ceaseless support

With deep sense of respect, we profusely thank **Dr. (Smt) V.Vallinayagi, M.Sc., M.Phil., Ph.d.,** Head,Department of Computer Science for her constant encouragement.

We all submit our honest and humble reverence to our guide **Smt. B. Parvathi Devi, MCA., M.Phil.,** for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interaction of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

ABSTRACT

This project is a simple website design model for individual Department in the college or university. It is designed in the ASP.NET language as a frontend and SQL Data base as the Backend. So it is easy to implement for any department or any other organization like medical,factory etc.. This website design consists of the functions which we can view the introduction of college and department, Faculty profile, details of student's fees details, library details, gallery of the department and the studying materials. This project is helpful and useful for both students and faculty members. Using this project, the searching of the student details like fees pending details of each student, library record details, examination details. This project is protected from the unauthorized persons access and changing the main details. Finally, it is useful for Management, faculty and student of any other organizations.

MASK DETECTION USING CONVOLUTIONAL NEURAL NETWORK WITH ALERT SOUND

A project work report submitted to the

Department of Computer Science

In partial fulfilment of the requirements to the award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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This is to certify that this project work titled **"MASK DETECTION USING CONVOLUTIONAL NEURAL NETWORK WITH ALERT SOUND"** is a bonafide work of **S.SREE SUTHA, M.MUTHULAKSHMI and M.VASUKI** of Final B.Sc., Computer Science, Sri Sarada College for Women (Autonomous), Tirunelveli – 627 011, in partial fulfilment of the requirements for the award of the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** during the academic year 2021 – 2022.

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M. Vijayalakshmi
INTERNAL GUIDE

4/11/22
EXTERNAL EXAMINAR

Sri Sarada College for Women COE AUTONOMOUS 3/11/22 Tirunelveli-627 011

DECLARATION

DECLARATION

We do hereby declare that this project work titled "MASK DETECTION USING CONVOLUTIONAL NEURAL NETWORK WITH ALERT SOUND" was carried out by all of us jointly for the award of the degree of BACHELOR OF SCIENCE IN COMPUTER SCIENCE is our original work .

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(S. SREE SUTHA)

M. Muthulakshmi

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(M. VASUKI)

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ABSTRACT

1. ABSTRACT

Face mask detection refers to detect whether a person is wearing a mask or not. In fact, the problem is reverse engineering of face detection where the face is detected using different machine learning algorithms for the purpose of security, authentication and surveillance. Recognition from faces is a popular and significant technology in recent years. Face alterations and the presents of different masks make it too much challenging. In the real-world, when a person is uncooperative with the systems such as in video then masking is further common scenarios. For these masks, current face recognition performance degrades. An abundant number of researches work has been performed for recognizing faces under different conditions like changing pose or illumination, degraded images, etc. Still, difficulties created by masks are usually disregarded. The primary concern to this work is about facial masks, and especially to enhance the recognition accuracy of different masked faces. A feasible approach has been proposed that consists of first detecting the facial regions. The occluded face detection problem has been approached using OpenCv and Convolution Neural Network (CNN). Experiments signify that this mentioned approach gives a remarkable performance on masked face recognition. Besides, its performance has been also evaluated within excessive facial masks are found attractive outcomes. Finally, co relates so made here for a better understanding. The impact of COVID-19 has been fallen on almost all sector of development. The health care system is going through a crisis. Many precautionary measures have been taken to reduce the spread of this disease where wearing a mask is one of them. We propose a system that restricts the growth of COVID-19 by finding out people who are not wearing any facial mask in a smart city network where all the public places are monitored with closed circuit television (CCTV) cameras. While a person without a mask is detected, the corresponding authorities are informed through the city network.

A deep learning architecture is trained on a dataset that consists of images of people with and without mask collected from various sources. Thus, a new deep learning (DL) fusion model is proposed, which includes object detection and semantic segmentation. It can solve the problems of end face localization and segmentation of steel bar at the same time. It is crucial to detect manipulated face images and localize manipulated regions. Instead of simple using multi-task learning to simultaneously detect manipulated images and predict the manipulated mask (regions), we propose to utilize an attention mechanism to process and improve the feature maps for the

classification task. COVID-19 pandemic has rapidly affected our day-to-day life disrupting the world trade and movements.

Wearing a protective face mask has become a new normal. In the near future, many public service providers will ask the customers to wear masks correctly to avail of their services. Therefore, face mask detection has become a crucial task to help global society. This project presents a simplified approach to achieve this purpose using some basic Machine Learning package like Tensor Flow, Keras, OpenCv, Scipy, Matplotlip,Imutils, pygame and Numpy packages. Pygame package is used for alert sound. The proposed method detects the face from the image correctly and then identifies if it has a mask on it or not. As a surveillance task performer, it can also detect a face along with a mask in motion. The method attains highest accuracy in with mask 99.98% and Without mask 99.99% respectively on two different datasets. We explore optimized values of parameters using the Sequential Convolution Neural Network model to detect the presence of masks correctly without causing over-fitting.

HOSPITAL MANAGEMENT SYSTEM

A project work report submitted to the

Department of Computer Science

In partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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This is to certify that this project work titled **"HOSPITAL MANAGEMENT SYSTEM"** is a bonafide work of **E.JOTHI SRI, S.KAMATCHI KAVITHA, P.SEETHA LAKSHMI** of Final B.Sc., Computer Science, Sri Sarada College for Women(Autonomous),Tirunelveli 627011 in partial fulfilment of the requirements for the award of the degree **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** during academic year **2021-2022.**

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INTERNAL GUIDE

EXTERNAL EXAMINER

Sri Sarada College for Women COE AUTONOMOUS Tirunelveli-627011

DECLARATION

We do hereby declare that this project work titled **"HOSPITAL MANAGEMENT SYSTEM"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** is our original work.

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E.JOTHI SRI

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S.KAMATCHI KAVITHA

P. Seetha Lakshmi
P.SEETHA LAKSHMI

P. Saravathy
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1.Abstract

The "Hospital management system" has been developed to override the problems prevailing in the practicing manual system.This software is supported to eliminate and in some cases reduce the hardships faced by this exisiting system.moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. It also provides error messages while entering invalid data.No formal knowledge is needed for the user to use this system.Thus by this all it proves it is user-friendly.Hospital management system can lead to error free,secure,other acticites rather to concentrate on the record keeping.Thus it will help organization in better utilization of resources.

Every organization,whether big or small,has challenges to overcome and managing the informations of Doctors,Hospital,Employee,Appointment details HIV Test.Outbreaks details.Every management system has different Hospital needs,therefore we design exclusive employee management system that are adapted to your managerial requriments. This is designed to assist in strategic planning,and will help you ensure your organization is equipped with the right level of information and details for your future goals.

Also,for those buy executive who are always on the go,our systems come with remote access features,which will allow you to manage your workspace anytime,at all times.The establishment and improvement of doctor,patient interaction sustem is a very important requirement,especially now when the communication technology is developing rapidly.

The advantage of web can be made full use to make up the time and distance gap between doctor and patients and to provide fast and adequate medical services.The platform web services and database technology are all gradually maturing so that we can develop a doctor,patient interaction system.From this website we can able to pick appointment with a doctor.So that we can able to interact with doctor about our trouble.

HARVEST CROP YIELD PREDICTION USING DATA ANALYTICS IN MACHINE LEARNING

A project work report submitted to the

Department of Computer Science

In partial fulfillment of the requirements for the Award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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CERTIFICATE

CERTIFICATE

This is to certify that this project work titled **'Harvest crop yield prediction using data analytics in machine learning'** is a bonafide work of K.BABYKA and K.KARPAGA VISHALATCHI of Final Year B.Sc., Computer Science, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** during the academic year 2021 - 22.

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INTERNAL GUIDE

EXTERNAL EXAMINER

DECLARATION

DECLARATION

We do hereby declare that this project work titled **'Harvest crop yield prediction using data analytics in machine learning'** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE"** is our original work

K. Babyka

(K.BABYKA)

K. Karpaga Vishalatchi

(K KARPAGA VISHALATCHI)

P. Anitha

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ABSTRACT

ABSTRACT

CROP YIELD PREDICTION USING DATA ANALYTICS WITH MACHINE LEARNING METHOD

In the era of internet and technology agriculture field of study requires attention in order to equip the farmers to maximize their output. In our country agriculture is the strength of the economy and growth and more than half of the population is living on the agriculture output. The crop yield is the major factor to decide the farmers earning and governments planning to meet the requirements to ensure the food security.Crop yield prediction will assist the farmers and other stakeholders for better crop planning i.e. selling, warehousing, market prices etc. Machine learning is one such technique employed to predict crop yield in agriculture. Various machine learning techniques such as prediction, classification, regression and clustering are utilizing to predict crop yield.

There are various researchers working on this area and proposed several techniques to attain the accuracy for crop yield, but the utmost accuracy and error free information is still need the enhancement to extract data from the bigger data sets. An approach has been proposed for prediction of crop yield using machine learning technique. For the prediction, classification techniques like AdaBoost algorithm, XGBoost algorithm , Stochastic Gradient Descent algorithm will help the farmers to cut the losses, farmer suicides and also will improve the crop yield. This paper discusses and compares the various data analytics techniques available for the crop yield prediction. However, the selection of the appropriate algorithm from the pool of available algorithms imposes challenge to the researchers with respect to the chosen crop. The accuracy of training model should be higher and error rate should be minimum.

COVID-19 TESTING MANAGEMENT SYSTEM

A project work report submitted to the

Department of Computer Science

In partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Submitted in December 2021 by

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CERTIFICATE

This is to certify that this project work titled **'COVID-19 TESTING MANAGEMENT SYSTEM'** is a bonafide work of B.MUTHULAKSHMI PRIYA, T.MUTHU PRIYA and M.THANGA SUSHMA of Final Year B.Sc., Computer Science, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** during the academic year 2021 - 22.

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4/1/22

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DECLARATION

We do hereby declare that this project work titled**"COVID-19 TESTING ANAGEMENTSYSTEM"** was carried out by all of us jointly for the award of the degree of **ACHELOR OF SCIENCE IN COMPUTER SCIENCE** is our original work.

B. Muthulakshmi Priya

.MUTHULAKSHMI PRIYA

T. Muthu Priya

T.MUTHU PRIYA

M. Thanga Sushma

M.THANGA SUSHMA

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ABSTRACT

COVID-19 testing system maintains the information about the Covid-19 test cases. The main purpose of this project is managing the testing records, store, update the covid19 cases. This project is useful for the government to maintain the Covid-19 test patient details and sending their result through SMS. This project is used to reduce the manual work load of the government staff who are attending covid19 testing cases. The user is also known the result details when admin enter the covid19 test result.

The main purpose of developing Covid-19 Testing System is lessons the manual workload of the hospitals on their daily routines. With the help of this project, the admin can easily track the patient records and maintain their records including result status and give the details of the availability treatments, hospitals, vaccination centers.

Features of the project:

- The user can view the available hospital details with their contacts which provide the covid19 treatments.
- The user can also know the treatment details.
- The administrator can create the testing details with the tester original proof details.
- The administrator can add, update and delete the covid19 test management details.
- After the testing details are finished the administrator update the status.
- When the administrator update the status, the SMS will be send to the relevant user.
- The administrator can also feed the news details.
- The user can view the updated news details.
- Easy to access.
- Save time and user friendly interface.

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ATTENDANCE MONITORING AND PERFORMANCE ANALYSIS SYSTEM

A project work report submitted to the

Department of Information Technology

in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

Submitted in December 2021 by

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This is to certify that this project work titled **'Attendance Monitoring And Performance Analysis System '** is a bonafide work of S. AARTHI , M. ARUNA , M. MAHESWARI , S. RAMYAKRISHNAN, K. SUBBULAKSHMI of Final Year B.Sc., Information Technology, Sri SaradaCollege for Women (Autonomous), Tirunelveli - 627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"Attendance Monitoring And Performance Analysis System"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY** is our original work.

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ABSTRACT

In Academic System, regular attendance of Teachers' plays a significant role in performance assessment and quality monitoring. The conventional methods practised in most of the institutions are by signing on papers, which is highly time-consuming,unreliable and insecure. The objective of **Attendance Monitoring and Performance Analysis System(AMPA)** is to give a solution to the problem in the existing system and to create a system that will help the Institution to make the attendance monitoring more accurate and to prove that the system developed is effective and helpful. The study is generally to monitor the Employees' attendance and to evaluate performance according to their attendance.

AMPA is based on web server, which can be implemented on any computer. In This application, PHP is server side language, MySQL and PHP is used as back-end design and HTML, CSS and JavaScript are used as front-end tools. The system communicates with database residing on a remote server. It calculates automatically, the attendance percentage of employees without any manual paper-based work. The system facilitates the end users with interactive design and automated processing of attendance management

COVID19-TESTING MANAGEMENT SYSTEM

A project work report submitted to the

Department of Information Technology

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

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

Submitted in December 2021 by

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This is to certify that this project work titled **'COVID-19 TESTING MANAGEMENT SYSTEM'** is a bonafide work of P.BHARATHI, R. DEEPA DHANALAKSHMI, R. LAKSHMI PRIYA, S.MANASHA, J.RAJESWARI of final Year B.Sc., Information Technology, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE INFORMATION TECHNOLOGY** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled "**COVID-19 TESTING MANAGEMENT SYSTEM**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY** is our original work.





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Abstract

At the onset of COVID-19 pandemic, the challenge was to standardize the format of sample data from various Tests conducted across the country. Covid-19 Testing Management system is to manage patient's details and their testing details online from anywhere, anytime and at any device. This system has two modules one is Admin and the other is user module. Admin is the super user of the website who can manage every detail of users on the website. An admin will be notified when a new user request for a test detail. And every request order has an unique ID called user id. The admin can also assign and manage phlebotomist to test the collected samples. And the user enters their personal details and the test type. Based on the patient's test sample, the phlebotomist uploads a report of them. Every User/Patient can download the test report from the website. If the user is detected COVID-19 positive an One Time Password (OTP) will be send to their registered mobile number for further treatment in local health center. And a proper instruction will be send to their mobile number for their awareness and immediate action to be taken for the COVID positive patient. Moreover, after generating report, the admin can search the report date- wise and by order number. This Covid-19 Testing Management system project is one of the idea of physical contactless COVID-19testing. The successful implementation of COVID-19 solutions resulted in a gain in workflow efficiency and reducing the administrative burden caused increased engagement of all clinical, administrative staff to remedy problems through novel IT solutions.

E-VACCINATION SYSTEM

A project work report submitted to the

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

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

Submitted in December 2021 by

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DECLARATION

We do hereby declare that this project work titled " **E VACCINATION SYSTEM** " was carried out by all of us jointly for the award of the degree of **FINAL YEAR OF SCIENCE IN INFORMATION TECHNOLOGY** is our original work.





S.GURU LAKSHMI

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ABSTRACT

Young children are at increased risk for infectious diseases because their immune systems have not yet built up the necessary defenses to fight serious infections and diseases. As a result, diseases like whooping cough or pneumococcal disease can be very serious and even deadly for infants and young children. Vaccinations start early in life to protect children before they are exposed to these diseases. The proposed system of e Vaccination system provide proper schedule of children vaccine time interval for the parents. Parents can search near by hospital and make a schedule. Admin will manage the child and vaccination report and approval of appointment. Hospital will update the status of vaccination applied for child.

VEHICLE INSURANCE SYSTEM

A project work report submitted to the

Department of Information Technology

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

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

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Abstract

Vehicle Insurance management system has been developed to override the problem prevailing in the practice manual system. This software is supported to eliminate in some cases reduce the hardship faced by this existing system. This system design for the particular need of the company to carry out the operation smoothly and effectively. The application is decreased as much as possible to avoid failures while entering the data. Its also provide error message while entering invalid data. Vehicle Insurance can lead to error-free, secure, reliable, and fast system Admins can manage their respective log in forms to log in to the system providing user id or security features such as username and password. Based on registration number, insurance number, vehicle number, or customer details, the manager can search for records previously saved in the database. Effectiveness, efficiency, and security are the key aspects that make this web-based vehicle insurance system so useful for vehicle showroom business. The main aim of this project is very flexible to handle new modules and features as per user want in the future. It can also be combined with other systems such as vehicle tracking system, vehicle information system, vehicle registration system, etc..

IOT BASED PATIENT MONITORING SYSTEM USING BLYNK AND ESP WEBSERVER

A project work report submitted to the
Department of Information Technology
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
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This is to certify that this project work titled **'IOT BASED PATIENT MONITORING SYSTEM USING BLYNK AND ESP WEBSERVER '** is a bonafide work of P.AARTHY VISALI, P.DURGA, V.JEEVAVISALI, J.NANDHINI and V.VIJAYANIALY of Final year B.Sc., Information technology, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled "**IOT BASED PATIENT MONITORING SYSTEM USING BLYNK AND ESP WEBSERVER**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY** is our original work..





P.AARTHY VISALI) (P.DURGA) (V.JEEVAVISALI) (J.NANDHINI) (V.VIJAYANJALY)

Signature of the Internal Guide

Abstract

General healthcare is essential due to the rapidly growing population and current medical costs. People living far away from cities suffer from poor medical care due to a lack of medical resources. Important to finding an active healthcare monitoring system capable of detecting deterioration of health over time in order to act quickly and taking the necessary measures on the basis of the information obtained. Incase the patient has heart disease and symptoms appear for some time and disappear, the monitor standard cannot record of symptoms during a few minutes. In this case, the doctor should recommend a portable device that monitors the heart rate and body temperature which usually takes 24 to 48 hours. This project aims to provide better healthcare for people across developing a system for detecting human vital signs such as heart rate, blood oxygen level of the surrounding environment based on the Internet of Things (IoT) platform. The device consists of a two-part Master and Slave.A master part is a control unit responsible for the operation of sensor remotely in real-time. Slave does collect, calculate and send data to the server using the Hypertext Transfer protocol (HTTP) depending on the signal that sends from Master to Slave to activate the sensor required. Multiple sensors have been integrated to measure and display the vital parameters of the patient simultaneously from anywhere and at anytime. All collected data displayed in a scientific manner through a program designed and installed on the Smartphone or computer. This device allows medical staff to continuously monitor the patient and accurately detect changes in patient status in real-time.

Keywords: HTTP, IoT, healthcare, body temperature system

STUDENT CURRICULUM VITAE MAKER

A project work report submitted to the
Department of Computer Applications
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF COMPUTER APPLICATIONS

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DECLARATION

We do hereby declare that this project work titled **"STUDENT CURRICULUM VITAE MAKER"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER APPLICATIONS** is our original work.

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SYNOPSIS

In every day of jobs in race of day-to-day life, so great curriculum vitae in our students commonly hand is very much important. The **"Student Curriculum Vitae Maker"** is a document that contains personal, educational, project details and other skill details. The CV is typically the first term that a student encounters regarding their job seeking and followed by an interview. In the career path process, a well-written and elegant resume is essential for all students. The CV shortens the work of finding the job by providing intellectual, user-friendly software and structure of resume in a user- friendly format. The system is developed to provide an easy means for creating a professional looking CV in collecting a data, storing them and displaying them as intended. It is an application that simplifies the mission of creating a CV for individual students. The aim is to automate its prevailing manual system by the help of online tools and satisfying their necessities, so that their treasured information can be stored for longer period with easy accessing and manipulation of the same. We used ASP.Net on the front-end to retrieve data from the user, send it to information storing facility and database using MySQL Server at the back-end for storing and fetching information.

STEGANOGRAPHY

A project work report submitted to the
Department of Computer Applications
in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF COMPUTER APPLICATIONS

Submitted in December 2021 by

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This is to certify that this project work titled **'STEGANOGRAPHY'** is a bonafide work of M.PRIYA DHARSHINI , P.KAVITHALAKSHMI, AND S.SUNDARI of Final Computer Applications, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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P. KAVITHALAKSHMI **M.PRIYA DHARSHINI** **S.SUNDARI**

Signature of the Internal Guide

SYNOPSIS

Steganography is becoming an important area in the field of steganography. As the demand of security and privacy increases, need of hiding their secret information is going on. If a user wants to send their secret information to otherpersons with security and privacy, he can send it by using steganography. During the last few years lot of different methods of hiding information has been done in this field.Some of the existing methods for hiding information give good results only in case of information gets hidden successfully. LSB is the most popular Steganography technique. It hides the secret message in the RGB image based on it its binary coding.LSB algorithm is used to hide the secret messages by using algorithm. LSB changes the image resolution quite clear as well as it is easy to attack. It is clear that LSB changes the image resolution when the least significant bits add in the binary image format, so that image quality become burst and there become so much difference in theoriginal image and encoded image in the respect of image quality. So to overcome thisproblem, the LSB technique so that we can get same image quality as it has before theencoding. The basic idea to get good image quality

DIGITAL LIBRARY SYSTEM

A project work report submitted to the
Department of Computer Applications
in partial fulfillment of the requirements for the award of the degree of
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This is to certify that this project work titled **"DIGITAL LIBRARY SYSTEM"** is a bonafide work of L.AASHIKA, V.RAMYA and V.SANGEETHA of Final Computer Applications, Sri Sarada College for Women (Autonomous), Tirunelveli -627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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P. Logambal.

Signature of the Internal Guide

SYNOPSIS

Library is a collection of sources of information and similar resources, made accessible to a defined community for references or browsing. The process of handling the activities of Library System provides a comprehensive way to lessen physical labor, to reduce complexity of the manual system. This project aims to design and implement a Digital library system. Digital Library System (DLS) is a software system that is based on a defined architecture and provides all functionality. It is a generic software system that provides the infrastructure to produce and administer a Digital Library. Digital library System project is used to maintain books stock, book issue details, return of book details, penalty details for late renewal. Digital Library System which is used to computerized the library system, so that all the transactions become fast and efficient. The Digital Library System will help the librarians in simplifying the manual work. The student and librarian benefit from the system, which allows them to keep track of all of the books available in the library. It allows both the administrator and the student to look for the book they want. The design of the digital library system assumes that there will be many indexes and catalogues that can be searched to discover information before retrieving it from a repository. These indexes may be independently managed. Simulation of Digital Library System project is being developed to help the end users as well as staff to maintain the library. This is the best possible way and it reduces the time complexity.

COMMUNICATION SITE

A project work report submitted to the
Department of Computer Applications
In partial fulfillment of the requirements for the award of the degree of
BACHELOR OF COMPUTER APPLICATIONS

Submitted in December 2021 by

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This is to certify that this project work titled **'COMMUNICATION SITE'** is a bonafide work of S.ASWINI,C.PAVITHRA,S.V. SANGEETHA of Final BCA, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"COMMUNICATION SITE"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER APPLICATIONS** is our original work.

S. Aswini

(S.ASWINI)

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ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary Yatiswari Saravanabhavapriya Amba's blessings. We wish to convey our respect to our Principal Dr.(Smt) N.Kamala, M.Com., M.Phil., PGDCA., Ph.D., for her ceaseless support.

With deep sense of respect, we profusely thank Smt. P.Anusha, MCA.M.Phil. DGT., Head, Department of Computer Applications for her constant encouragement.

We all submit our honest and humble reverence to our guide Selvi. V. Durga Jayanthi, M.Sc., M.Phil., for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

REALTIME ONLINE BLOOD BANK APPLICATION

A project work report submitted to the
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in partial fulfilment of the requirements for the award of the degree of
BACHELOR OF COMPUTER APPLICATIONS

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P. KAVITHALAKSHMI **M.PRIYA DHARSHINI** **S.SUNDARI**

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SYNOPSIS

A blood bank is a Centre where blood gathered as a result of blood donation is stored and preserved for later use in blood transfusion. Blood transfusion safety is a relevant and significant public health issues. Since most blood banks are still in paper-based system, various disadvantages are experienced by various stakeholders, which endanger the lives of patients and deter the healthcare system. The main goal of the Blood Bank is to monitor Blood Bank data, Blood stock and Donor List. It manages the Blood Bank, Donor, Blood stock data. The developed Project is entirely administrative and therefore access is guaranteed only to the administrator. As Such , We aimed to design, develop, and implement an Real-Time online blood bank management system (RTOBBMS). We designed and administered a questionnaire that assess the perceptions of various stakeholders in both manual-based and RTOBBMS. Based on the findings and results, it was found out that these stakeholders perceived online blood bank management system is much better than the manual system. Also, processes involving recording about blood donors and inventory **(The Dataset Collected from Government Medical College – Tirunelveli)** will be systematized and organized, hence, improving the healthcare management for blood banks.

Key words: Online Blood Bank Management System, Blood Bank Management, Blood Donation, Blood Transfusion Safety, Web-Based Application

REGIONAL TRANSPORT OFFICE GOVERNANCE SYSTEM

A project work report submitted to the
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in partial fulfilment of the requirements for the award of the degree of
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This is to certify that this project work titled **'REGIONAL TRANSPORT OFFICE GOVERNANCE SYSTEM'** is a bonafide work of N. MAGESHWARI, A.SRI GOMATHI and A.UMA SANKARI of Final Computer Applications, Sri Sarada College for Women (Autonomous), Tirunelveli -627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"RTO (REGIONAL TRANSPORT OFFICE)"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER APPLICATIONS** is our original work.

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SYNOPSIS

RTO (REGIONAL TRANSPORT OFFICE) is the organization of the Indian Government responsible for maintaining a database of drivers and a database of vehicles for various states of India. RTO Information System source developed for Road Transport Authority to facilitate the user in applying for various licenses and registration. The main aim of the project is to control the license issued by the RTO office. RTO office management system project is prepared for RTO office to maintain all records like two-wheeler and four-wheeler registration. The E-RTO (Regional Transport office) is an application that is designed for the RTO for the process of registration of vehicles and issuing driving licenses process. It can make the daily activities to run efficient and providing fast response to retrieve and store the information. RTO management system can also act as a leading technological tool for the ease of RTO function such as registration leaner's function driving licenses etc. Now a day's many people are purchasing two wheelers, four wheelers etc. So, the RTO employees having lot of work burden of making registration, License issue, transfer etc., which required lot of paper work. As a result, people cannot get the things done in right time, which waste the time, energy. This system will play a leading role in reducing the difficulties fixed in day-to-day activities that are carried away in the RTO to run smoothly. We developed this software application with a full computerized method to manage all the data. At present all records are maintained manually.

Keywords:

RTO, RTA, License, Technological, Existing, vehicles, Transfer, Computerized.

REAL TIME OBJECT DETECTION USING YOLO ALGORITHM

A project work report submitted to the
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This is to certify that this project work titled **'REAL TIME OBJECT DETECTION USING YOLO ALGORITHM'** is a bonafide work of M.MUTHU MARI, S.PARAMESWARI, and T.UTCHIMAHALI of Final Computer Applications, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfilment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled "**REAL TIME OBJECT DETECTION USING YOLO ALGORITHM**" was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER APPLICATIONS** is our original work.

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M. MUTHU MARI

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SYNOPSIS

Object detection is a computer vision technique related to image processing that deals with detecting instances of semantic objects of a certain class in digital images and videos. When humans look at images or videos, we can recognize and locate objects interest within a matter of moments. The goal of object detection is to replicate this intelligence using a computer. Object detection is one of the fundamental problems vision. It forms basis of many other downstream computer vision tasks, instance segmentation, image captioning, object tracking, and more. The detection models can get better results for big object. Those models fail to detect small object that have low resolution and are greatly influenced by noise because the features after repeated convolution operations of existing models, it does not fully represent the essential characteristics of the small objects. YOLO (You Only Look Once) is an algorithm that uses neural networks to provide real-time object detection. This algorithm is popular because of its speed and accuracy. SSD is an object detection model. Image classification identifies the picture or image is, whereas object detection identifies the various objects in the image and uses bounding boxes to indicate where they are in the image.

SMART HEALTH PREDICTION

A project work report submitted to the
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This is to certify that this project work titled **'SMART HEALTH PREDICTION '** is a bonafide work of S.ASWINI,C.PAVITHRA,S.V. SANGEETHA of Final BCA, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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ACKNOWLEDGEMENT

We express our deep gratitude to our Secretary **Yatiswari Saravanabhavapriya Amba's** blessings. We wish to convey our respect to our Principal **Dr. (Smt)Kamala, M.Com., M.Phil., NET., Ph.D.,** for her ceaseless support.

With deep sense of respect, we profusely thank **Smt. P. Anusha., MCA., M.Phil., DGT.,** Assistant Professor and Head, Department of Computer Applications for her constant encouragement.

We all submit our honest and humble reverence to our guide **Selvi.V.Durga Jayanthi M.Sc., MPhil.,** for her consistent review, constructive suggestion and critical interpretation throughout the work which enabled us to complete this project harmoniously and successfully.

We further acknowledge the inquisitive interactions of faculty members at the department, our beloved parents and siblings at home and our classmates and contemporary graduate friends who have rendered their help and time directly and indirectly.

WEATHER FORECASTING

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This is to certify that this project work titled **"WEATHER FORECASTING"** is a bonafide work of L.AASHIKA, V.RAMYA and V.SANGEETHA of Final Computer Applications, Sri Sarada College for Women (Autonomous), Tirunelveli-627011 in partial fulfillment of the requirements for the award of degree of **BACHELOR OF COMPUTER APPLICATIONS** during the academic year 2021 - 22.

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DECLARATION

We do hereby declare that this project work titled **"WEATHER FORECASTING"** was carried out by all of us jointly for the award of the degree of **BACHELOR OF COMPUTER APPLICATIONS** is our original work.

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SYNOPSIS

To predict the conditions of the atmosphere for a given location Weather Forecasting is used. It is the application of science and technology. Farmers will be the most beneficial one's as they may know the rainfall prediction and grow crops accordingly. The weather forecast can be done in many ways like using the previous data or analyzing the current clouds. The authors predict the weather using the status of the clouds.

Weather Forecasting means predicting the weather and telling how the weather changes with change in time. Many Meteorological patterns and features like anticyclones, depressions, thunderstorms, hurricanes and tornadoes occur due to the physical transfer of heat and moisture by convective processes. Clouds are formed by evaporation of water vapor. As the water cycle keeps on evolving the water content in the clouds increases which in turn leads to precipitation. This is how the convective process happens and also the change in weather. Many factors like temperature, rainfall, pressure, humidity, sunshine, wind and cloudiness are considered for predicting the weather. It is also possible to identify the different types of clouds associated with different patterns of weather. These patterns of weather help in predicting the weather forecast.

In the past, people used barometric pressure, current weather conditions, sky condition to predict whereas now there are many computer based models that consider the atmospheric factors to predict the weather. These methods are not accurate and the reason is due to the chaotic nature of the atmosphere as it keeps on changing. Even predicting weather for a longer period of time will not be accurate that is why most of the current forecasting models predict weather only for a couple of days not more than 10. The accuracy gets reduced with increase in time. Weather Forecasting isn't a purely mechanical linear process, that standard practices and procedures will be directly applied. Forecaster's job is predicated on theoretical background and lab work which needs several years of study but mainly day-to-day practice inside a Weather Forecasting service having a particular technical environment. The work of the forecasters has evolved significantly over the years to require advantage of both scientific and technological improvements. The skill of numerical models has improved such a lot that some centers are automating routine forecasts to permit forecasters to specialize in high impact weather or areas where they can add significant value. So it's dangerous to see a regular thanks to achieve weather forecasts.