

Shri Amolak Jain Vidya Prasarak Mandal's Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada Tal-Ashti, Dist-Beed (M.S.) 414202 NAAC Accredited with Grade 'B' A Jain Minority Institution

Project Work 2018-2019 BCA

Project Report

On

Medical store Management System Submitted in Annual Fulfillment of the Requirement

For

Bacherlor Degree of Computer Application

Dr. BabasahebAmbedkarMarathawada University of Aurangabad

IN

(BCA, Bachelor Computer Aaplication)

Project By:-1)Anarse Deepshri Deepak

Project Guide:-1)Prof. Hase S.R

2)Prof.Waghule V.T

3)Prof.Bondarde Sir

Department of Computer Application

Sheri Amolak Jain VidyaPrasarak Mandal's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

A.Y 2018-2019.

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Shri.AmolakJain VidyaPrasarakMandal's

Smt.S.K. Gandhi Arts, Amolak Science &P.H.Gandhi Commerce College,

NAACAccridiatedGrade"B"

KadaTal-Ashti, Dist-Beed (M.S.)414202



CERTIFICATE

2018-2019

That is to ceritify that,

R

Name:-Anarse Deepshri Deepak

Of T.Y.BCA has completed the project entitled as

Project Name:-"Medical Store Management System" As per the practical requirement of T.Y.Bca University of Aurangabad,

Academic Year 2018-2019

Date: **Project Guide**

Prof.Waghule V.T.

Internal Examiner

Psof. waghule VoT.

(Department of BCA)

Exter iner

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Project Report

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On

"BLOOD BANKMANAGEMENT SYSTEM"

Submitted in Annual Fulfillment of the Requirement

For

BacherlorDegree of Computer Application

Dr. BabasahebAmbedkarMarathawada University of Aurangabad

IN

(BCA, Bachelor Computer Application)

Project By:-1Dhawale Yogesh Nana

Project Guide:-1)Prof. Hase S.R.

2)Prof.Waghule V.T

3)Prof.Bondarde. Sir

Department of Computer Application

ShriAmolak Jain VidyaPrasarak Mandel's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic Year:-2018-2019.

Shri.AmolakJain VidyaPrasarakMandal's

Smt.S.K. Gandhi Arts, Amolak Science & P.H.Gandhi Commerce College,

NAACAccridiatedGrade"B"

KadaTal-Ashti, Dist-Beed (M.S.)414202



CERTIFICATE

2018-2019

That is to ceritify that,

Name:-Dhawale Yogesh Nana

Of T.Y.BCA has completed the project entitled as

Project Name:-"Blood Bank Management System"

As per the practical requirement of T.Y.Bca University of Aurangabad,

Academic Year 2018-2019

Date: 12/04/2019

Project Guide Jaswoohuls Prof. Waghule .V.T.

Internal Examiner PSof. Waghale NoT.

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(Department of BCA)

Exte miner

Project Report

On

HOSPITAL MANAGEMENT SYSTEM

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr.Babasaheb Ambedkar Marathwada

University of Aurangabad

IN

(B.C.A. Bachelor Computer Application)

Project By:-1) Gaikwad Sheetal Bhausaheb

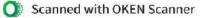
Project Guide:-1)Prof.HaseS.R

2)Prof.WaghuleV.T

Department of Computer Application

Shri.AmolakJain vidya prasarak Mendel's

Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College A.Y. 2018-2019



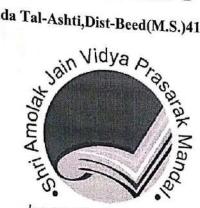
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NAAC Accredited Grade "B"

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CERTIFICATE

2017-2018

That is to certify that,

Name:-Gaikwad Sheetal Bhausaheb

Of T.Y.BCA has completed the project entitled as

Project Name:-"Hospital Management System"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

Date: 12/04/19

Project Guide Prof. Waghule V T

x lad

Internal Examiner

(Department Of BCA)

Iner

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Project Report

On

Men's Cloth Shop Management System

Submitted in annual fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada

University of Aurangabad

IN

(BCA, Bachelor Computer Application)

Project By:-Gandhi Shubham Sanjay

Project Guide:-1) Prof. Hase Sir

2) Prof. Waghule Sir

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3)Prof. Bondarde Sir

Department of Computer Application.

Shri Amolak Jain Vidya Prasarak Mandal's

Smt. s. k. Gandhi Arts, Amolak Science & P.H .Gandhi Commerce college,

Academic Year 2018-2019.



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Project Report

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1

On

Trust Management System With Reference Temple

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr.BabasahebAmbedkarMarathwada

University of Aurangabad

IN

(B.C.A. Bachelor Computer Application)

Project By:-1)Kankariya Mayuri Vijay

Project Guide:-1)Prof.HaseS.R

2)Prof.WaghuleV.T

Department of Computer Application

Shri.AmolakJainvidyaprasarak Mendel's

Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

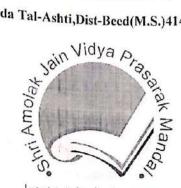
A.Y. 2018-2019

Shri, Amolak Jainvidyaprasarak Mendel's

Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

NAAC Accredited Grade "B"

Kada Tal-Ashti,Dist-Beed(M.S.)414202



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CERTIFICATE

2017-2018

That is to certify that,

Name:- Kankariya Mayuri Vijay

Of T.Y.BCA has completed the project entitled as

Project Name:-" Trust Management System With Reference Temple"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

Date: 12/04

Project Guide Prof. Waghule V.T Internal Examiner

(Department Of BCA) External Examiner

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2



Project Report

On

Institute Management System

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada

University of Aurangabad

IN

(BCA, Bachelor Computer Application)

Project By:-1)Kardile Rohini Jalindar

Project Guide:-1)Prof. Hase S.R

2) Prof. Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Shri.Amolak Jain Vidya Prasarak Mandel's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic. Year 2018-2019.

Shri Amolak Jain VidyaPrasarak Mandal's

Smt.S.K. Gandhi Arts, Amolak Science & P.H.Gandhi Commerce College,

NAACAccridiatedGrade"B"

KadaTal-Ashti,Dist-Beed (M.S.)414202



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CERTIFICATE

2018-2019

That is to ceritify that,

Name:-Kardile Rohini Jalindar

Of T.Y.BCA has completed the project entitled as

Project Name:-"Institute Management System"

As per the practical requirement of T.Y.Bca University of Aurangabad,

Academic Year 2018-2019

Date:

Project Guide

Prof.HaseS.R.

Internal Examine

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(Department of BCA)

External F aminer

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Project Report

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On

COLLEGE LIBRARY MANAGEMENT SYSTEM

Submitted in Annual Fulfillment of the Requirement For

Bachelor Degree of

Dr. Babasaheb Ambedkar Marathwada

University of Aurangabad

IN

(BCA, Bachelor Computer Application) Project By: - 1) KHAKALVIDYA

> Project Guide:-1) Prof. Hase Sir 2) Prof. Waghule Sir 3)Prof. Bandade Sir Department of computer Application 2018-2019

Shri.Amolak Jain Vidya Prasarak Mandal's Smt. S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College, NAAC Accredited Grade "B" Kada Tal-Ashti, Dist-Beed (M.S.) 414202



CERTIFICATE 2018 - 2019

That is to certify that,

NAME:-KHAKAL VIDYA BALASAHEB

Of T.Y.BCA has completed the project entitled as Project name: - "COLLEGE LIBRARY MANAGEMENT SYSTEM"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year

Date: 12/04/9

Project Guide

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Prof. Waghule Sir

2018-2019

(Department of BCA)

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Exte aminer

Internal Examiner

Project Report

On

Footwear Shop Management System

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada

University of Aurangabad

IN

(BCA, Bachelor Computer Application)

Project By:-1) Khandare Dnyaneshwar Dilip

Project Guide:-1) Prof. Hase S.R

2) Prof. Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Shri. Amolak Jain Vidya Prasarak Mandel's

Smt. S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic Year 2018-2019.

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NAAC Accridiated Grade"B"

Kada, Tal-Ashti, Dist-Beed (M.S.) 414202



CERTIFICATE

2018-2019

That is to certify that,

Name:-Khandare Dnyaneshwar Dilip

Of T.Y.BCA has completed the project entitled as

Project Name:-"Footwear Shop Management System" As per the practical requirement of T.Y.Bca University of Aurangabad, Academic Year 2018-2019

Date: 12/04/19

aswame Project Guide

Prof. Waghule V.T

n waa Internal Examine

(Department of BCA)

External Enginiher

Project Report

On

Tourism management system

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application Dr.Babasaheb Ambedkar Marathwada

University of Aurangabad

IN

(Bachelor Computer Application)

Project By:-1) Nimbore trupti pralhad

Project Guide:-1) Prof. Hase S.R

2) Prof. Waghule V.T

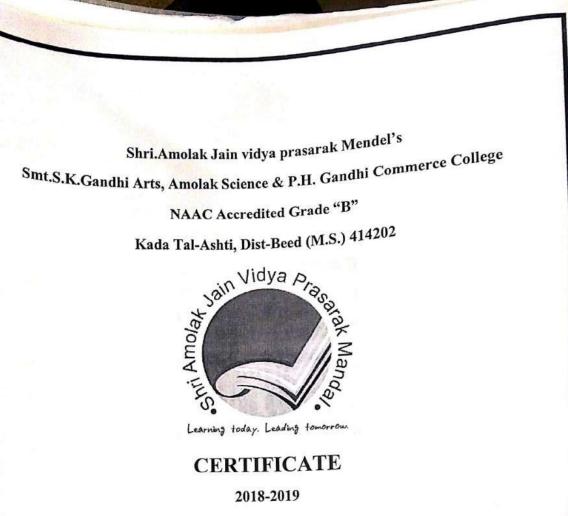
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3)Prof.Bondarde Sir

Department of Computer Application

Shri.AmolakJainvidyaprasarak Mendel's Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

A.Y. 2018-2019



That is to certify that,

Name:- Nimbore trupti pralhad

Of T.Y.BCA has completed the project entitled as

Project Name:- "Tourism management system"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

Date: 12/03/2619

Project Guide Tasweahuls Prof. Waghule V.T

Youwaghulg Internal Examiner

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On

Dairy Management System

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada University of Aurangabad

IN

(BCA, Bachelor Computer Application)

Project By :- 1) Padole Akash Devidas

Project Guide :- 1) Prof. Hase S.R

2) Prof. Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Shri.Amolak Jain Vidya Prasarak Mandel's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic. Year 2018-2019.

Shri.AmolakJain VidyaPrasarakMandal's

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CERTIFICATE

2018-2019

That is to certify that,

Padole Akash Devidas :-Name

Of T.Y.BCA has completed the project entitled as

"Dairy Management System" **Project Name** ---

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

Date: 12/04/19

Project Guide Valu Prof. Waghule V.T.

Internal Examiner

(Department of BCA)

aminer Exte

Project Report

On

Showroom Management System

Submitted in Annual Fulfillment of the Requirement

For

Bacherlor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada University of Aurangabad

IN

(BCA, Bachelor Computer Aaplication) Project By:-1)Waghule Akshay Subhash

2) Pawar Shivam Rajendra

Project Guide:-1)Prof. Hase S.R

2) Prof.Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Sheri.Amolak Jain Vidya Prasarak Mandel's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic. Year 2018-2019.

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Shree. Ar	molak Jain Vidya Prasarak Mandal's
Smt.S.K.	Gandhi Arts, Amolak Science &
Р.	H. Gandhi Commerce College,
NA	AAC Accredited Grade
Ka	ada, Tal-Ashti, Dist- Beed (M.S.) 414202
	Ada, Tal-Ashti, Dist-Beed (M.S.) 414202
	CERTIFICATE
That is to certify that,	2018-2019
	ıbhash , Pawar Shivam Rajendra
Of T.Y.BCA has completed	
Project Name:-" Showroor	
	ment of T.Y. Bca University of Aurangabad,
Academic Year 2018	3-2019
Date: 12104119 Project Guide Prof. Waghule V.T VagWaghul	H.O.D HOLD (Department of BCA)
Date: 12104/19	
Date: 12104119 Project Guide Prof. Waghule V.T Vagwapul	

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Ö

On

News PaperManagement System

Submitted in Annual Fulfillment of the Requirement

For

BacherlorDegree of Computer Application

Dr. BabasahebAmbedkarMarathawada University @Aurangabad

IN

(BCA, (Bachelor Computer Application)

Project By:-1)Sakhare Amol Babasaheb

Project Guide:-1)Prof. Hase S.R

2)Prof.Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Sheri.Amolak Jain VidyaPrasarak Mandel's

Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College,

Academic. Year2018-2019.

Shri.AmolakJainVidyaPrasarakMandal's

Smt.S.K. Gandhi Arts, Amolak Science & P.H.Gandhi Commerce College,

NAACAccridiatedGrade"B"

KadaTal-Ashti, Dist-Beed (M.S.)414202



CERTIFICATE

2019-2019

That is to ceritify that,

Name:-Sakhare Amol Babasaheb

Of T.Y.BCA has completed the project entitled as

Project Name:-"NewsPaper Management System"

As per the practical requirement of T.Y.Bca University of Aurangabad,

Academic Year 2018-2019

Date: 12/02/19 **Project Guid**

Prof.Waghule.V.T

Internal Examiner

(Department of BCA)

External Examiner

Project Report

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On

Crime File Management System

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr.BabasahebAmbedkarMarathwada

University of Aurangabad

IN

(B.C.A. Bachelor Computer Application)

Project By:-1) SHAIKH NISHA MOHAMMAD

Project Guide:-1)Prof.HaseS.R

2)Prof.WaghuleV.T

Department of Computer Application

Shri.Amolak.Jainvidyaprasarak Mendel's Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

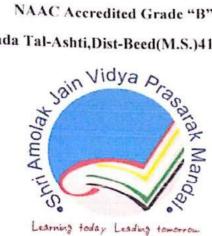
A.Y. 2018-2019

Shri.AmolakJainvidyaprasarak Mendel's

Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

NAAC Accredited Grade "B"

Kada Tal-Ashti,Dist-Beed(M.S.)414202



Learning today Leading tomorrow

CERTIFICATE

2018-2019

That is to certify that,

Name:-ShaikhNisha Mohammad

Of T.Y.BCA has completed the project entitled as

Project Name:-"Crime file management system"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

Date: 12/04/2019 raswaghule

Project Guide Prof. Waghule V.T

awachula

nternal Examiner

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(Department Of BCA)

Externa

Project Report on

Online bus booking system

Submitted in Annual Fulfillment of the Requirement

For

BacherlorDegree of Computer Application

Dr. BabasahebAmbedkarMarathawada University of Aurangabad

IN

(BCA, Bachelor Computer Aaplication) Project By:-1)shindekirtibhausaheb Project Guide:-1)Prof. Hase S.R 2)Prof.Waghule V.T

Department of Computer Application

Sheri.Amolak Jain VidyaPrasarak Mandel's Smt.S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College, Academic. Year2018-2019.



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KadaTal-Ashti, Dist-Beed (M.S.)414202



Learning teday Ladding

CERTIFICATE

2013-2018

That is to ceritify that,

Name:-shindekirtibhausaheb

Of T.Y.BCA has completed the project entitled as

Project Name:-"online Bus booking System"

As per the practical requirement of T.Y.Bca University of Aurangabad,

Academic Year 2018-2019

Date: 12/04/19

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Prof.waghule sr

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(Department of BCA)

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On

JEWELRY MANAGEMENT SYSTEM

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr.Babasaheb Ambedkar Marathwada

University of Aurangabad

IN

(B.C.A. Bachelor Computer Application)

Project By:-1) Talekar Chetana Sunil

Project Guide:-1) Prof.Hase S.R

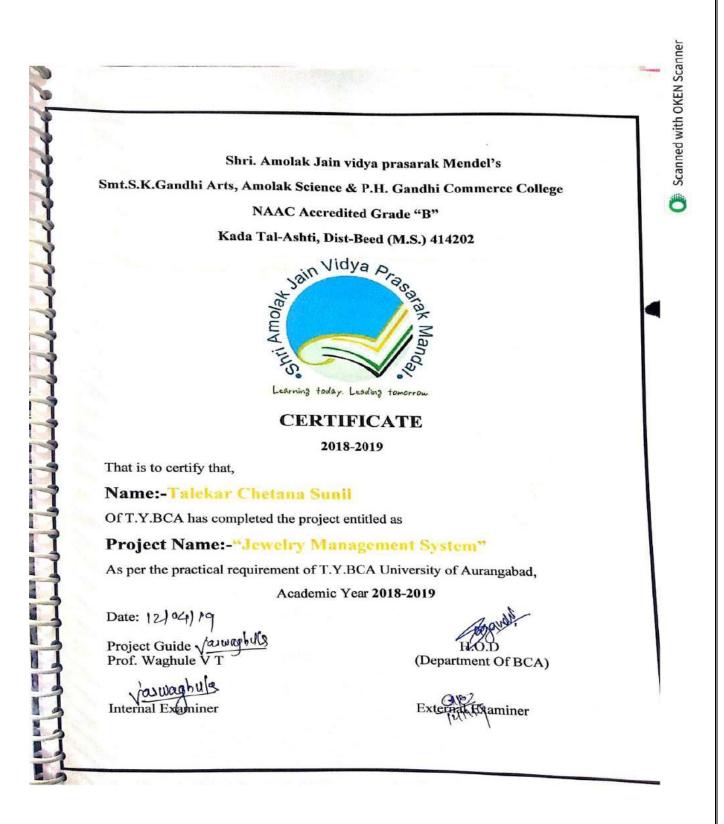
2) Prof.Waghule V.T

3) Prof.Bondarde Sir

Department of Computer Application

Shri. Amolak Jain Vidya Prasarak Mandel's Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

Academic, Year 2018-2019



Project Report

On

Hotel Management System

Submitted in Annual Fulfillment of the Requirement

For

Bachelor Degree of Computer Application

Dr.Babasaheb Ambedkar Marathwada

University of Aurangabad

IN

(Bachelor Computer Application)

Project By:-1) Wable Sushil Govind

Project Guide:-1)Prof.Hase S.R

2)Prof. WaghuleV.T

Department of Computer Application

Shri.Amolak Jain vidya prasarak Mondol's

Smt.S.K.Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College

A.Y. 2018-2019

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Date: 12104/2019

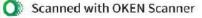
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Project Guide Prof. Waghule V.T

rawashuls Internal Examiner

HOD (Department Of BCA)

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N.C.

Project Report

On

Showroom Management System

Submitted in Annual Fulfillment of the Requirement

For

Bacherlor Degree of Computer Application

Dr. Babasaheb Ambedkar Marathawada University of Aurangabad

IN

(BCA, Bachelor Computer Aaplication)

Project By:-1) Waghule Akshay Subhash

2) Pawar Shivam Rajendra

Project Guide:-1)Prof. Hase S.R

2) Prof. Waghule V.T

3) Prof. Bondarde Sir

Department of Computer Application

Sheri.Amolak Jain Vidya Prasarak Mandel's

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Academic. Year 2018-2019.

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P. H. Gandhi Commerce College,
NAAC Accredited Grade
Kada, Tal-Ashti, Dist- Beed (M.S.) 414202



2018-2019

That is to certify that,

Name:-Waghule Akshay Subhash , Pawar Shivam Rajendra

Of T.Y.BCA has completed the project entitled as

Project Name:-" Showroom Management System"

As per the practical requirement of T.Y. Bca University of Aurangabad,

Academic Year 2018-2019 Date: Vaswaghuls Project Guide Prof. Waghule V.T

raucesta Internal Examine



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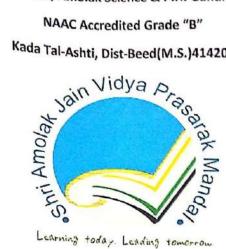


Shri. Amolak Jain vidya prasarak Mandal's

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NAAC Accredited Grade "B"

Kada Tal-Ashti, Dist-Beed(M.S.)414202



Learning today. Leading tomorrow

CERTIFICATE

2018-2019

That is to certify that,

Name:- MAYURI DNYANDEV WAMAN

Of T.Y.BCA has completed the project entitled as

Project Name:-"COLLEGE MANAGEMENT SYSTEM"

As per the practical requirement of T.Y.BCA University of Aurangabad,

Academic Year 2018-2019

......

Date: 12/04/2019

raiwea **Project** Guide Prof. Waghule VT

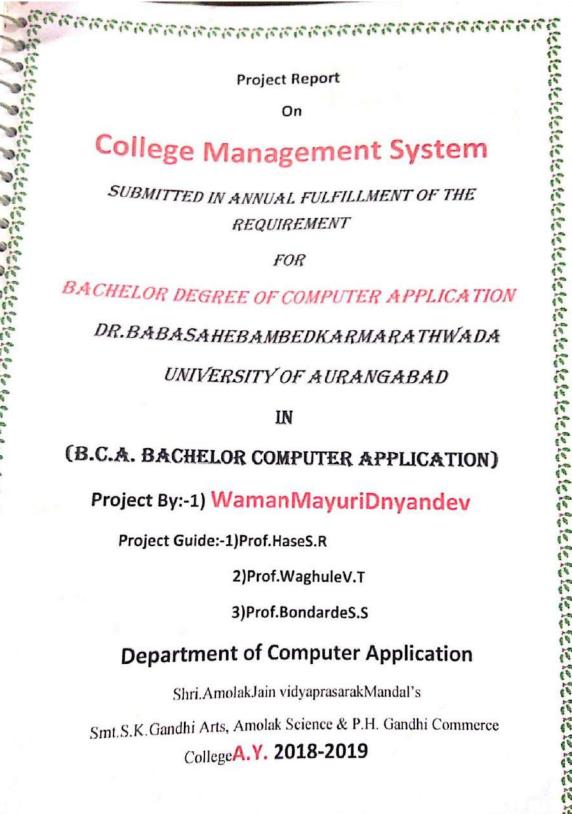
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BCA 2018-2019 Project



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-	Smt. S.K. Gandhi Arti, Amolak Science P.H Gandhi
	Commerce College
	Ms. Shinde Snehal
	Ms. Mohite priyarika
	A
	V free Principal
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	Prof. Hase S.R. Dr. Railin Sor
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	2018-2019
•	AFFILIATED TO
	DR. BABASAHEB AMBEDKAR UNIVERSITY
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CERTIFICATE

This is to certify that the work embodied in the project for the degree of B.Sc.. (Comp. Sci.) of Dr. B.A.Marathawada University, Aurangabad.

This is to certify that the work embodied in the project for the degree of B.Sc.. (Comp. Sci.) of Dr. B.A.Marathawada University, Aurangabad.

"BANKING SYSTEM IN C++"

Is the original work done by Miss..MULIK ASHWINI DATTATRY VISHVANITH . B.Sc. (Comp. Sci) Sem-VI has satisfactorily carried out required project work under my personal supervision and guidance and

completed to my entire satisfaction.

Head of Dept (Dept of Computer) Prof. Hase S. R. Project Guide

8

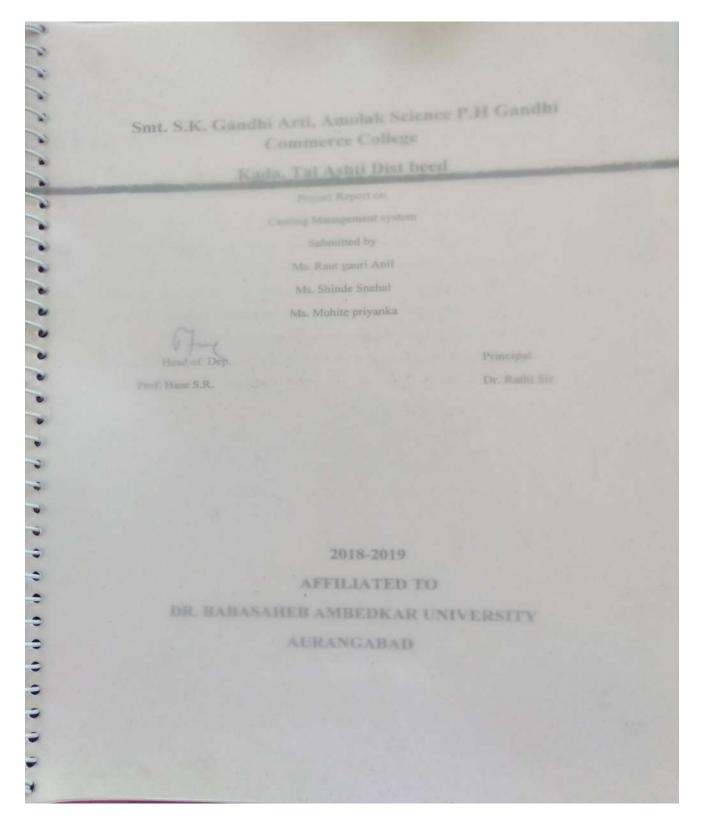
ACKNOWLEDGEMENT

It is matter of great pleasure for us that I have been selected to work on this project to prove my performance .This project not only enhanced my knowledge in this field but also increased our general awareness . I had tried to put best of my knowledge and effort to develop this project and I hope that My Project will reflect my labor and hard work. As I know that nobody is 100% correct i. e fully error free. This project also have some drawback but I am sure that it is more efficient and perfect than it drawback.

Now before Proceeding to documentation I would like to thanks that all people who appreciated help and encourage me for making this project.

I would like to express my deep gratitude to my guide for her invaluable help, encouragement & genius guidance. Last but not the least I extend my thanks to Prof. Mr. Hase. S. R.(H.O.D. of the Computer Science Department) and the staff of Gandhi College Kada for all assistant and co-operation.

Thank you





Smt. S.K. Gandhi Arts, Amolak Science P.H Gandhi Commerce College

Kada, Tal Ashti, Dist beed

CERTIFICATE

This is to certify that, Project Report entitled, "Canting management system" Developed for "Canting Management" and Kada is done & submitted for the practical Fulfillment of B.sc 3rd (B.sc Computer Science) of the University of Aurangahbad. This is the original work carried our under our guidance & supervision.

We further certify that to the best of our knowledge & belief that matter Presented in Project Report is bona fide & has not been submitted to this or any other Degree. Diploma on membership.

Head of Dep

Prof. Hase S.R.

Direcor Dr. Rathi Sir

Certificate

This is certify that Ms. Gauri G.A.,Ms. Shinde S., Ms. Has successfully completed the Project report on CANTING MANEGMENT SYSTEM for our Hotel as the partial fulfillment of the course B.Sc 3rd (Computer Science) affiliated to University of Dr. B.A.M.U. Aurangabad during the academic year 2018 – 2019

For

CANTING MANEGMENT

It gives me immense pleasure to mention that I have completed my project working

The stipulated time frame. The project which is part of our B.S.C syllabus. Gives me

Some anxious as well as very exhilarate experience throughout period. On my part of if I do not pass my thanks to all those who help me to complete my project On time.

First of all, we would like to extend our sincere thanks to prof. Hase sir For their technical guidance. We would also like to thank prof. Hase sir And all my classmets, for they are concurrently Suggestion and timely help.

Secondly. With deep sense of gratitude, we would like to thank Mr. Vijay & also

Staff if canting management who give me valuable support and guidance. In all efforts to successful

Completion of the project.

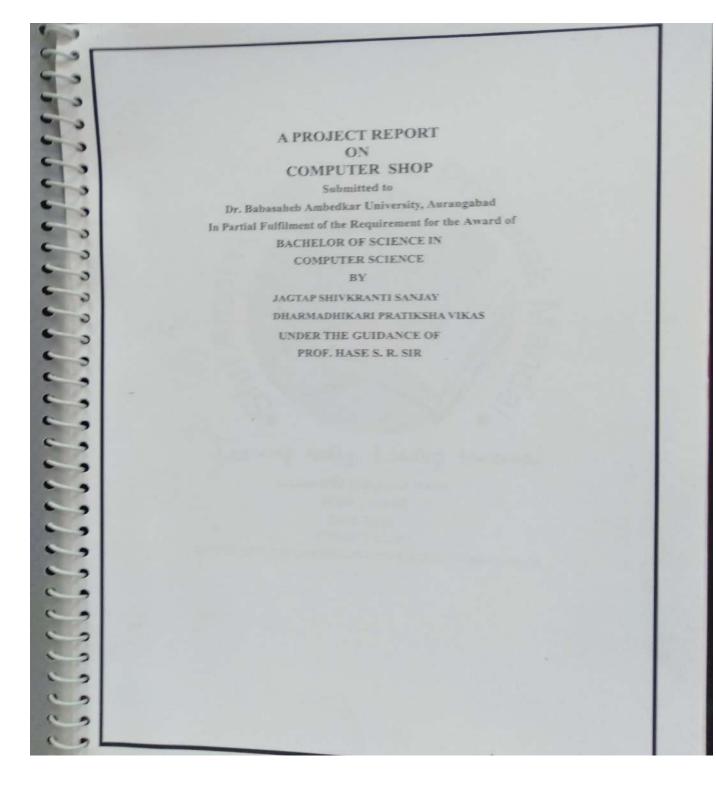
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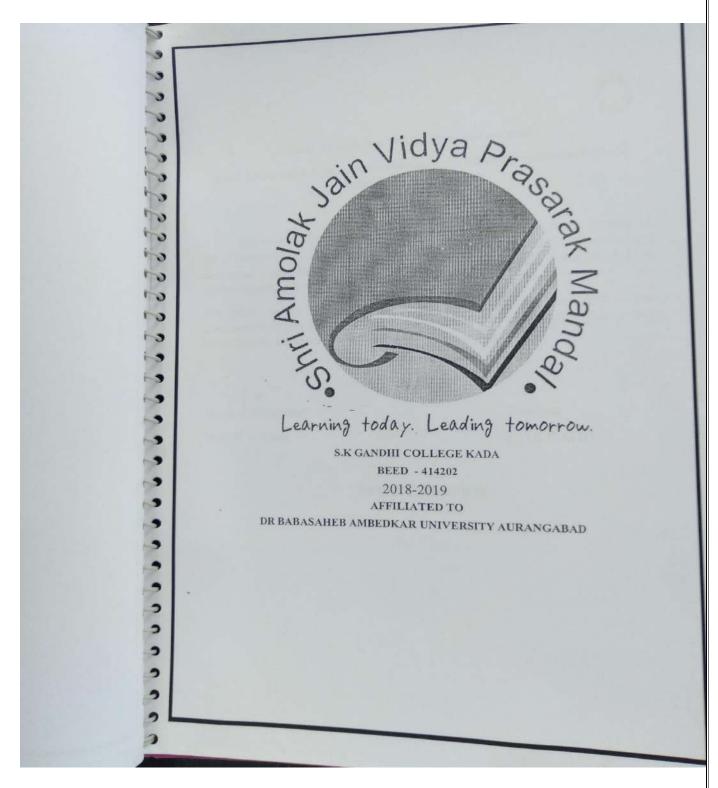
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We also place on record. Our thanks to our parents, for their constant inspiration

And encouragement, without which this work would not have become succeful.





Shri Amolak Ja	n Vidya Prasarak mandal's : Science P. H. Gandhi Commerce College, Fal Ashti Dist Beed
Kaua,	
CE	RTIFICATE
for c program and is done and su Computer Science for the Dr. Bab- is the original work carried out und	et Report entitled Computer Shop developed omitted by our for the Partial fulfillment of Bs usaheb Ambedkar University, Aurangabad. This er our guidance and supervision.
me and settle that to the h	est of our knowledge and belief that matter a fide and has not been submitted to this or any
CT_	
Head of Department	Principal
Prof. S. R. Hase	Dr. N.S.RATHI
Ext	ernal Examiner

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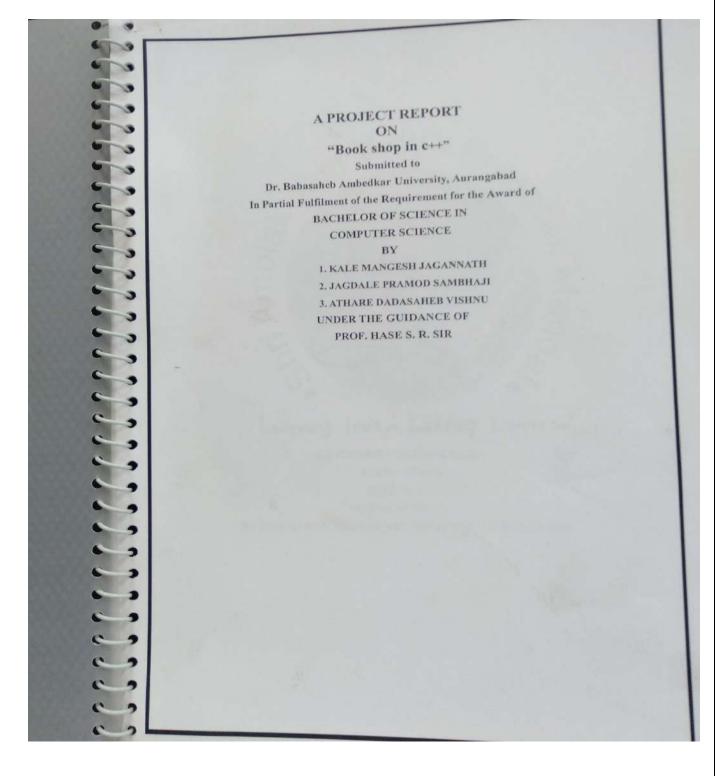


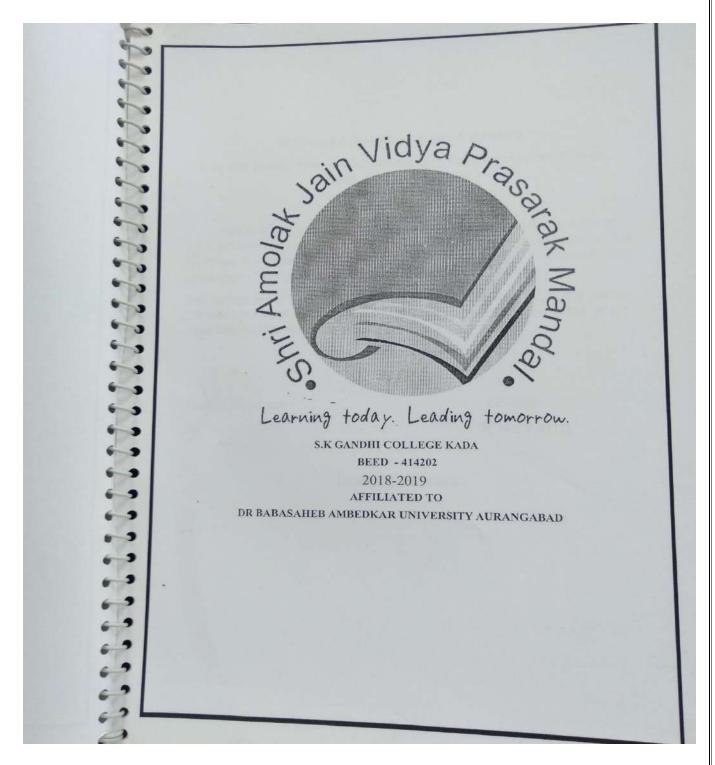
Wth the deep sense of gratitude we would like to thanks all the people who have lit our path with their kind guidance. We are very grateful to these intellectuals who did their best to help during our project work.

It is our proud privilege to express deep sense of gratitude to, **Dr. RATHI Sir**, principal of Smt. Shantabai Kantilal Gandhi Arts, Amolak Science, Panalal Hiralal Gandhi Commerce, College, Kada, Tal Ashti, Dist Beed. We remain indebted to **Prof. HASE S. R.** Computer Science department for their timely suggestion and valuable guidance.

We also thankful to our Parents who providing their wishful support for our project completion successfully.

GROUP MEMBER JAGTAP SHIVKRANTI SANJAY DHARMADHIKARI PRATIKSHA VIKAS





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Shri Amolak Jain Vidya Prasarak mandal's

Smt. S.K.Gandhi Arts, Amolak Science P. H. Gandhi Commerce College, Kada, Tal Ashti Dist Beed

CERTIFICATE

This is to certify that, Project Report entitled Book shop in c++ developed for c program and is done and submitted by our for the Partial fulfillment of Bsc Computer Science for the Dr. Babasaheb Ambedkar University, Aurangabad. This is the original work carried out under our guidance and supervision.

We further certify that to the best of our knowledge and belief that matter presented in Project Report is bona fide and has not been submitted to this or any other Degree, Diploma on membership.

Head of Department

Prof. S. R. Hase

Principal

Dr. N.S.RATHI

External Examiner

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ACKNOLEGEMENT

Wth the deep sense of gratitude we would like to thanks allthe people who have lit our path with their kind guidance. We are very grateful to these intellectuals who did their best to help during our project work.

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GROUP MEMBER

KALE MANGESH JAGANNATH
 JAGDALE PRAMOD SAMBHAJI
 ATHARE DADASAHEB VISHNU



Shri Amolak Jain Vidya Prasarak Mandal's Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada Tal-Ashti, Dist-Beed (M.S.) 414202 NAAC Accredited with Grade 'B' A Jain Minority Institution

Project Work 2018-2019 Botany

Shri Amolak Jain Vidya Prasarak Mandals

SMT.SHANTABAI KANTILAL GANDHI ARTS, AMOLAK SCIENCE AND PANALAL HIRALAL GANDHI COMMERCE COLLEGE, KADA. TAL- ASHTI DIST- BEED.



A PROJECT REPORT ON

"Efficacy of Trichoderma Viride on Pathogenic fungi"

Report of Project carried out as a part of curriculum for the degree

Of Master of Science in

"BOTANY"

Submitted BY

Miss.Walke Komal Maruti

UNDER THE GUIDANCE OF

Asst. Prof. Dr. Patale S.S

Submitted to

Smt.Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal

Hiralal Gandhi Commerce College, Kada.

Academic Year

(2018 - 2019)

Scanned with CamScanner

COD- 401130

(OD - 401127



DR, BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY AURNGABAD

DEPARTMENT OF BOTANY

Shri Amolak Jain Vidya Prasarak Mandals Smt.Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada.

Tal-Ashti Dist-Beed.



This is to certify that the work of incorporated in the project report on "Efficacy of Trichoderma Viride on Pathogenic fungi" submitted by

Miss. Walke Komal Maruti

Student of S.A.J.V.M'S S.K. Gandhi College Kada. Affiliated to the

Dr. Babasaheb Ambedkar Marthwada University, Aurangabad. In the partial requirement for the Post Graduate Degree In Botany of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

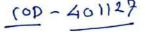
Mr. Patale S.S

(Ass.Prof.) Dept. of Botany

Mr. Sayyad . I.G (Head of Department) Dept. of Botany

Dr.N.S.Rathi (Principal) Gandhi College Kada

External Examiner



Report of work done on the M. Sc. research project entitled



"STUDIES ON FOLIAR DISEASES OF GROUNDNUT (Arachis hypogaea L.)"

Submitted to

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Department of Botany

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed.

By

Miss. Sonal Nanasaheb Jedhe, M.Sc. II

Under the Guidance of

Dr.Patale S.S.

M.Sc., Ph.D.

Department of Botany, 2018-2019

Scanned with CamScanner

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed

Affiliated to

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad



Certificate

This is to certify that *Miss. Jedhe Sonal Nanasaheb successfully* completed a Project entitled "Studies of foliar diseases of groundnut (*Arachis hypogaea* L.) to the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad in the academic year 2018-2019. All the work in the present report is satisfactorily and done under my supervision.

Project Guide

Date: 10/0 \$2019

Place : Kada

External Examine

Report of work done on the M. Sc. research project entitled



"Isolation and identification of Rhizosphere soil fungi from Arachis hypogaea L."

Submitted to

Department of Botany

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed.

By

Mrs. Vibhavari I. Bhavsar, M.Sc. II

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Under the Guidance of

Dr.Patale S

M.Sc., Ph.D.

Department of Botany, 2018-2019

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed

Affiliated to

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad



Certificate

This is to certify that *Mrs. Bhavsar Vibhavari Ishwarlala successfully* completed a Project entitled "Isolation and identification of Rhizosphere soil fungi from arachis hypogaea L." to the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad in the academic year 2018-2019. All the work in the present report is satisfactorily and done under my supervision.

Project Guide

Date: 1 2/ 5/2019

Place : Kada

Head of Dept.

External Examiner

The M.Sc. Project Dissertation Entitled

"The study of *Trichodermaviride* and its characterization"

Submitted to

PG Department of Botany,

Smt.S.K.Gandhi Arts, Amolak Science, P.H.Gandhi commerce college, Kada

(AFFILIATED TO Dr BABASAHEB AMBEDKAR

MARATHWADA UNIVERSITY, AURANGABAD)

BY

Mrs. Danave Prerana Adinath

UNDER THE GUIDENCE OF

Mr.S.S.Patale Sir

POST GRADUTE DEPARTMENT OF BOTANY

CERTIFICATE

This is certified that dissertation work entitled "The study of Trichodermaviride and its characterization" submittd by Mrs. Danave Prerana Adinath is bonafide project work carried out during 2018-2019 under my Supervision and Guidance and fulfilled the standard required for the partial fulfillment of the degree of master of science in Botany.

Mr. S.S.Patale

Project guide

Mr.I.G. Sayyad P.G.Incharge

Mr N.S. Rath

Principal



Scanned with CamScanner

CERTIFICATE

This is certified that Miss. Waghmode Harshashri Uttamrao, from the Department of Botany, Smt. S.K. Gandhi Arts, Amolak Science, And P.H. GandhiCommerce College, Kada has successfully completed the project work entitled "Studies On Antimicrobial Activity Of Common Weeds In Kada Region" for the partial fulfilment of M.Sc. Botany curriculum of the year 2018-19. All work has been carried out at department of Botany, Smt. S.K. Gandhi Arts, Amolak Science, And P.H. Gandhi Commerce College, Kada under the guidance of Prof. I.G. Sayyad, HOD and Dr. S.S. Patale, Department of Botany, Smt. S.K. Gandhi Arts, Amolak Science, And P.H. Gandhi Commerce College, Kada.

No part of this project work has been submitted elsewhere for any degree or diploma. The techniques and observations embodied in this work undertaken by the candidate herself.

Dr. S.S. Patale Asst. Professor

Prof. I.G . Savvad H.O.D.

Department of Botany Smt. S.K. Gandhi Arts, Amolak Science, And P.H. GandhiCommerce College, Kada.



COD - 401126

Report of work done on the M. Sc. research project entitled



"Isolation and fungal identification disease of Jawar."

Submitted to

Department of Botany

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed.

By

Mrs. Dhalpe Ashok Kondiba, M.Sc. II

Under the Guidance of

Dr.Patale S.S.

M.Sc., Ph.D.

Department of Botany, 2018-2019

Shri Amolak Jain Vidya Prasarak Mandal kada's

Smt. S.K.Gandhi Arts, Amokal Science and P.H. Gandhi Commerce College, Kada. Dist. Beed

Affiliated to

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad



Certificate

This is to certify that *Mr*. Dhalpe Ashok Kondiba *successfully* completed a Project entitled "Isolation and fungal identification disease of Jawar." to the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad in the academic year 2018-2019. All the work in the present report is satisfactorily and done under my supervision.

Project Guide

Date:03/5/2019

Place : Kada

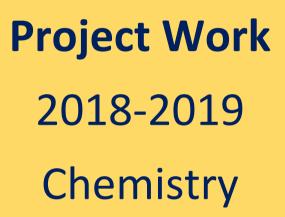
2013

External Examiner

Head of Dept.



Shri Amolak Jain Vidya Prasarak Mandal's Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada Tal-Ashti, Dist-Beed (M.S.) 414202 NAAC Accredited with Grade 'B' A Jain Minority Institution



Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.



A Project Report on

"One Pot, rapid and facile Synthesis of Pyrano [2, 3] Pyrazole in Aqueous medium using Piperidine as Catalyst"

Report of Project carried out as a part of curriculum for the degree of Master of Science in "Organic Chemistry"

Submitted by

Mr. Lomate Shubham Sunil

UNDER THE GUIDANCE OF

Asst. Prof. Katariya A.P.

Submitted to

Department of Chemistry Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada

> Academic Year (2018-2019)

Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.

DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that the work incorporated in the project report on "One Pot, rapid and facile Synthesis of Pyrano [2, 3] Pyrazole in Aqueous medium using Piperidine as Catalyst "submitted by

Mr. Lomate Shubham Sunil

Student of S. A. J. V. P. M'S Gandhi College Kada. Affiliated to the Dr. Babasaheb Ambedkar Marathwada University Aurangabad in the partial requirement for the Post Graduate Degree in Organic Chemistry of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Mr. Katariya A. P. (Asst. Prof.) Dept. of Chemistry

Dr. N. S. Rathi (Principal) Gandhi College, Kada.

External Examiner

Acknowledgement

It gives me great pleasure to express my sincere thanks to my research guide **Mr. Katariya A. P.** For his timely help, constant support, encouragement, valuable suggestion and generous treatment right from the beginning till the end of the project.

I am greatly obliged beloved teachers Dr. Deshmukh S. R., Mr. Jagadale S. M., Mr. Dhage S. S, Mr. Lomate S.I., and Mr. Desai R. D.

I am also thankful to **Dr. N. S. Rathi** Principal of Smt. S. K. Gandhi College, Kada. for providing suitable laboratory facilities.

I give my sincere thanks to all teachers of chemistry department for their encouragement and support.

I am indebted to my parents and my best friends for their support and encouragement. Whatever I am, whatever I intend to be in future is because of them.

Mr. Lomate Shubham S.

Introduction

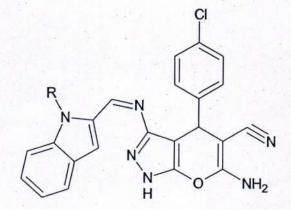
Pyrano-pyrazoles are significant class of oxygen containing heteroaromatic compounds that also are components of some naturally occurring compounds. They are extensively utilized as synthetic intermediates in preparation of a variety of natural products. Several methods have been reported for the synthesis of pyrano-pyrazole derivatives. Now-a-days numbers of organic reactions in aqueous media have been reported. Recently, pyranopyrazole and their derivatives are widely used as organic intermediates and also have a structural component because of their widespread biological active natural and synthetic compounds

The pyrano-pyrazole derivatives are well-known in literature since 19th century. In 1973, Junek et al. and Otto et al. had put efforts for the tremendous development on the synthesis of pyrano-pyrazole derivatives and also well studied their applications in medicinal chemistry. From the literature survey, several pyrano-pyrazole derivatives have been reported and they shows various types of important biological activities such as anti-inflammatory, analgesic (1a), anti-bacterial (2a) and anti-microbial (3a, 3b) They also show anticancer, antibiotics and antimalarial, enzyme inhibitors properties. They also find the applications in biodegradable agrochemicals and pharmaceutical ingredients.

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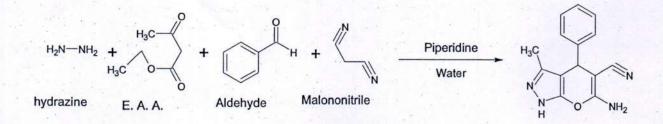
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Some biological important pyrano-pyrazole scaffolds

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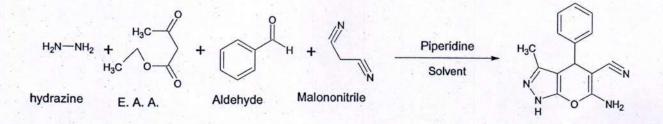
General Experimental Procedure for pyrano[2,3-c]pyrazole



Aromatic aldehyde (10 mmol) and malononitrile (10 mmol) was added to a mixture of hydrazine hydrate (10 mmol) and ethyl acetoacetate (10 mmol), and catalytic amount of piperidine (5mol %) in water (10 ml). The reaction mixture was stirred for appropriate time. Solid is precipitated after some time, After completion of reaction as confirmed by thin-layer chromatography (TLC) using eluent n-hexane–ethyl acetate (7:3). The product was collected by filtration, washed with water, and dried to give the corresponding pyrano[2,3-c]pyrazole derivatives and crystallized from ethanol.

Result and Discussion

Optimization study of solvent and amount of catalyst is done by taking an ideal condensation reaction of hydrazine hydrate (99%), Ethyl Acetoaceate, malononitrile and Benzaldeyde in presence of suitable solvent and piperidine as catalyst at different condition.



Reaction carried out by using solvents acetonitrile ,ethanol, ethanol: water (1:1), methanol, water and solvent free condition at different temperature condition but best results are obtained by using water as solvent at room temperature. (table no. 1) also the amount of catalyst piperidine used is 5 mole% (1 drop), 10 mole%, 15 mole% (2 drop) & 20 mole% (3 drop) best result are obtained by using 5 mole % (1 drop) of piperidine catalyst so synthesis of various derivatives is carried out by using 20 mole% of piperidine. Increase in catalyst leads to lower the yield and sometimes sticky solid (table no. 2)

Optimization of Solvent

Sr. No	Solvent	Time in min	Reaction Condition	Yield
1	Ethanol	60	R. T.	70 %
2	Ethanol	50	Reflux	70 %
3	Ethanol: Water (1:1)	70	R. T.	66%
4	Ethanol: Water (1:1)	40	Reflux	69 %
5	Acetonitrile	80	R. T.	traces
6	Acetonitrile	40	Reflux -	traces
7	Methanol	80	R. T.	traces
8	Methanol	80	Reflux	traces
9	Water	20	R. T.	95%
10	Solvent free	70	R. T.	30%
11	Solvent free	50	60°C	45%

Table - 1

Sr. No	Amount of catalyst Piperidine	Time in min	Yield
1	5 mole%	20	95 %
2	10 mole%	20	90 %
3	15 mole%	20	83 %(Sometimes sticky solid obtained)
4	20 mole%	20	90 %(Sometimes sticky solid obtained)

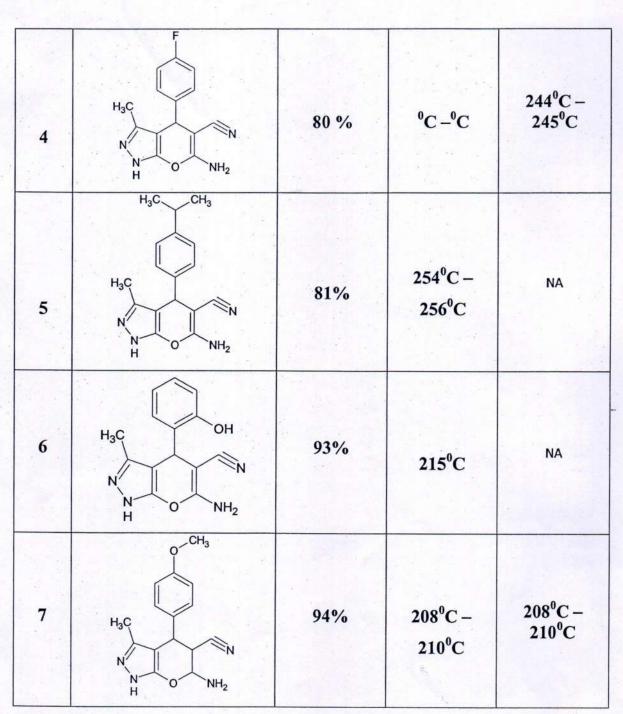
Optimization of amount of catalyst Piperidine

Table - 2

Summary

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Sr. No.	Product	Yield	M.P.	Reported M.P.
1	H ₃ C N N H O NH ₂	95 %	⁰C –⁰C	169⁰C – 170ºC
2	H ₃ C H ₃ C N N H O NH ₂	75 %	°C –°C	209 [°] C – 210 [°] C
3	H ₃ C N H O NH ₂	89 %	°C −°C	224 [°] C – 226 [°] C



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Conclusion's

- In conclusion, the study described in this project is about an efficient, rapid, and facile synthesis of pyrano[2,3-c]pyrazole in a one-pot, four component reaction strategy using easily available piperidine (5mol%) as catalyst in water at R. T.
- The present method offers several advantages including higher yield and easy experimental workup procedure.
- Also one pot condensation, Easy workup procedure, aqueous medium and high yield addresses towards green approach of this reaction.

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Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.



A Project Report on "Ceric Ammonium Nitrate as efficient catalyst for Green Synthesis of Tri Substituted Imidazole"

Report of Project carried out as a part of curriculum for the degree of Master of Science in "Organic Chemistry"

Submitted by

Mr. Kasture Nikhil Suresh

UNDER THE GUIDANCE OF

Asst. Prof. Katariya A.P.

Submitted to

Department of Chemistry Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada

> Academic Year (2018-2019)

Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.

DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that the work incorporated in the project report on "Geric Ammonium Nitrate as Gatalyst for Green Synthesis of Tri Substituted Imidazole "submitted by

Mr. Kasture Nikhil Suresh

Student of S. A. J. V. P. M'S Gandhi College Kada. Affiliated to the Dr. Babasaheb Ämbedkar Marathwada University, Aurangabad. in the partial requirement for the Post Graduate Degree in Organic Chemistry of Dr. Babasaheb Ämbedkar Marathwada University, Aurangabad.

Mr. Katariya A. P. (Asst. Prof.) Dept. of Chemistry

Dr. N. S. Rathi (Principal) Gandhi College, Kada.

External Examiner

Acknowledgement

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I am greatly obliged beloved teachers Dr. Deshmukh S. R., Mr. Jagadale S. M., Mr. Dhage S. S, Mr. Lomate S.I., Mr. Desai R. D.

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I give my sincere thanks to all teachers of chemistry department for their encouragement and support.

I am indebted to my parents and my best friends for their support and encouragement. Whatever I am, whatever I intend to be in future is because of them.

Mr. Kasture Nikhil Suresh

Introduction

Imidazole is a planar five-membered ring system with three carbon and two nitrogen atom in 1 and 3 positions. It is amphoteric in nature, susceptible to electrophilic and nucleophilic attack. It also occurs in the purine nucleus & amino acid histidine; 4-amino-imidazole-5-carboxamide occurs naturally as a riboside (or, ribotide).



Imidazole is a highly polar compound, as evidenced by a calculated dipole of 3.61D. It is highly soluble in water. The compound is classified as aromatic due to the presence of a sextet of π -electrons, consisting of a pair of electrons from the protonated nitrogen atom and one from each of the remaining four atoms of the ring.

Amphotericity

Imidazole is amphoteric. That is, it can function as both an acid and as a base. As an acid, the pKa of imidazole is 14.5, making it less acidic than carboxylic acids, phenols, and imides, but slightly more acidic than alcohols. The acidic proton is located on N-1. As a base, the pKa of the conjugate acid is approximately

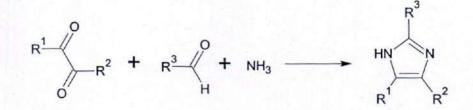
7, making imidazole approximately sixty times more basic than pyridine. The basic site is N-3. Protonation gives the imidazoliumcation, which is symmetrical.

Biological Importance

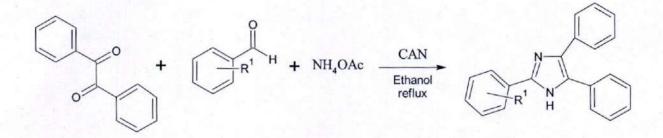
The imidazoles nucleus is an important synthetic strategy in drug discovery. Imidazole derivatives exhibited antimicrobial, anti-inflammatory, analgesic, antitubercular and anticancer activity. One of the most important applications of imidazole derivatives is their use as material for treatment of denture stomatities. The high therapeutic properties of the imidazole related drugs have encouraged the medicinal chemists to synthesize a large number of novel chemotherapeutic agents. Imidazole drugs have broadened scope in clinical medicines. Medicinal properties of imidazoles include anticancer, anticoagulants, anti-inflammatory, antibacterial, antifungal, antiviral, antitubercular, antidiabetic and antimalarial.Imidazole and its derivatives are reported to be physiologically and pharmacologically active and find applications in the treatment of several diseases.

Synthesis

Imidazole was first synthesized by Heinrich Debus in 1858, but various imidazole derivatives had been discovered as early as the 1840s, as shown below, used glyoxal and formaldehyde in ammonia to form imidazole. This synthesis, while producing relatively low yields, is still used for creating C-substituted imidazoles.



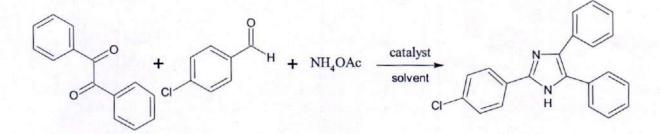
General Experimental Procedure for 2,4,5-Triaryl-1H-imidazoles



Aromatic aldehyde (10 mmol) was added to a mixture of benzil (10 mmol), ammonium acetate (40 mmol), and Ceric Ammonium Nitrate (20mol %) in Ethanol (20 ml). The reaction mixture was refluxed for appropriate time. After completion of reaction as confirmed by thin-layer chromatography (TLC) using eluent n-hexane–ethyl acetate (7:3) the reaction mixture was cooled to room temperature and poured onto ice water (50 ml) to get precipitate the solid. The product was collected by filtration, washed with water, and dried to give the corresponding 2, 4, 5-triaryl-1H-imidazole derivatives and crystallized from ethanol.

Result and Discussion

Optimization study of solvent and amount of catalyst is done by taking an ideal condensation reaction of p-chlorobenzaldehyde ,benzil& ammonium acetate in presence of suitable solvent and catalyst at reflux condition.



Reaction carried out by using solvents acetonitrile ,ethanol, ethanol: water (1:1), methanol, water and solvent free condition but best results are obtained by using ethanol as solvent (Acetonitrile and Methanol also shows moderate reaction condition)(table no. 1) also the amount of catalyst CAN used is 5 mole%, 10 mole%, 15 mole%, 2m mole%& 25 mole% best result are obtained by using 20 mole % of CAN catalyst so synthesis of various derivatives is carried out by using 20 mole% of CAN (table no. 2)

Optimization of Solvent

Sr. No	Solvent	Time in hr	Yield
1	Ethanol	7	89 %
2	Ethanol: Water (1:1)	16	30 %
3	Acetonitrile	7	70 %
4	Methanol	10	65%
5	Water	24	No reaction
6	Solvent free	8	No reaction

Table - 1

Optimization of amount of catalyst CAN

Sr. No	Amount of catalyst CAN (Ceric Ammonium Nitrate)	Time in hr	Yield
1	5 mole%	10	65 %
2	10 mole%	9.5	67 %
3	15 mole%	8.5	83 %
4	20 mole%	6	89 %
5	25 mole %	6.5	80%

Table - 2

Summary

Sr. No.	Product	Yield	M.P.	Reported M.P.
1		89 %	260°C – 262°C	262ºC – 264ºC
2		85 %	270 [°] C– 271 [°] C	272°C– 273°C
3	N N H ₃ C	78 %	228°C – 231°C	230°C – 232°C
4		80 %	227°C - 229°C	230°C - 231°C
5		81%	237 ⁰ C - 240 ⁰ C	241°C - 242°C

Conclusion

In conclusion, the study described in this project is about an efficient, rapid, and convenient synthesis of tri- substituted imidazoles in a one-pot, three component reaction strategy using nontoxic, and easily available CAN (20 mol%) as catalyst in Ethanol. The present method offers several advantages including higher yield and easy experimental workup procedure. Also one pot condensation, Easy workup procedure and high yield addresses towards green approach of this reaction.

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Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.



A Project Report on

"Sodium Benzoate as efficient catalyst for effective, facile and green catalyst of Pyrano [2,3-c] Pyrazole "

Report of Project carried out as a part of curriculum for the degree of Master of Science in **"Organic Chemistry"**

Submitted by

Mr. Nimbhalkar Abhijeet Vijaysinha

UNDER THE GUIDANCE OF

Asst. Prof. Katariya A.P.

Submitted to

Department of Chemistry

Smt. S. K. Gandhi Arts, Amolak Science & P. H. Gandhi Commerce College, Kada

> Academic Year (2018-2019)

Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.

DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that the work incorporated in the project report on "Sodium Benzoate as efficient catalyst for effective, facile and green catalyst of Pyrano [2,3c] Pyrazole "submitted by

Mr. Nimbhalkar Æbhijeet Vijaysinha

Student of S. A. J. V. P. M'S Gandhi College Kada. Affiliated to the Dr. Babasaheb Ambedkar Marathwada University Aurangabad in the partial requirement for the Post Graduate Degree in Organic Chemistry of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Mr. Katariya A. P. (Asst. Prof.) Dept. of Chemistry

Dr. N. S. Rathi (Principal) Gandhi College, Kada.

External Examiner

Acknowledgement

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I give my sincere thanks to all teachers of chemistry department for their encouragement and support.

I am indebted to my parents and my best friends for their support and encouragement. Whatever I am, whatever I intend to be in future is because of them.

Mr. Nimbhalkar A. V.

Introduction

pyrano[2,3-*c*]pyrazole are an important class of heterocyclic ring systems, which can be prepared by a diverse range of synthetic procedures. Pyranopyrazoles have important pharmacological properties, been the topic of theoretical studies, and are of industrial significance. Out of four possible isomeric forms, pyrano[2,3-*c*]pyrazole (**1**), 47 pyrano[4,3-*c*]pyrazole (**2**), pyrano[3,2*c*]pyrazole (**3**) and pyrano[3,4-*c*]pyrazole (**4**), isomer **1** is the most widely studied. The synthesis, derivatization and biological activities of a range of derivatives of have been reported

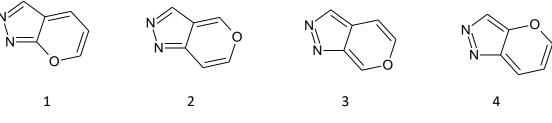


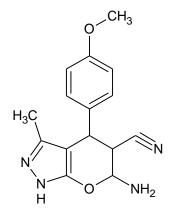
Figure 1. Structures of isomeric pyranopyrazoles.

The first synthesis of pyrano[2,3-*c*]pyrazoles was reported by Stollé, who prepared it from hydrazine and ethyl acetoacetate. Wolff also reported its synthesis at about the same time. In 1973, Junek and Aigner synthesized some polynitrile derivatives of pyrano[2,3-*c*]pyrazoles which initiated developments in

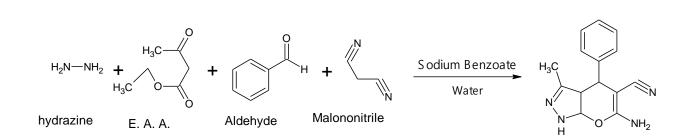
functionalized pyranopyrazoles synthesis such as pyrano[2,3-*c*]pyrazol-6-one, pyrano[2,3-*c*]pyrazol-4-one and 4*H*-pyrano[2,3-*c*]pyrazole

Biological Importance

pyrano[2,3-c]pyrazole in general are biologically active and have remarkable antimicrobial anticancer, inflammatory, analgesic, anticonvulsant, anti-platelet, vasodilator, antifungal, potential Chk1 kinase inhibitors, herbicidal and molluscicidal properties. Moreover, pyranopyrazoles were found to be effective inhibitors to steel corrosion and as antioxidants for lubricant oil



Potential Chk1 kinase inhibitors

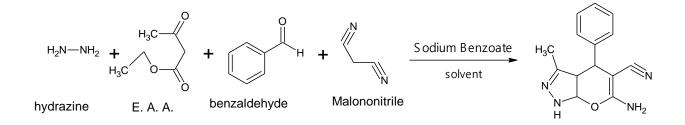


Aromatic aldehyde (10 mmol) and malononitrile (10 mmol) was added to a mixture of hydrazine hydrate (10 mmol) and ethyl acetoacetate (10 mmol), and catalytic amount of Sodium benzoate (20mol %) in water (10 ml). The reaction mixture was Stirred for appropriate time. Solid is precipitated after some time, After completion of reaction as confirmed by thin-layer chromatography (TLC) using eluent n-hexane–ethyl acetate (7:3) the reaction mixture was cooled to room temperature and poured onto ice water (50 ml). The product was collected by filtration, washed with water, and dried to give the corresponding pyrano[2,3-c]pyrazole derivatives and crystallized from ethanol.

General Experimental Procedure for pyrano[2,3-*c*]pyrazole

Result and Discussion

Optimization study of solvent and amount of catalyst is done by taking an ideal condensation reaction of hydrazine hydrate (99%), Ethyl Acetoaceate, malononitrile and Benzaldeyde in presence of suitable solvent and sodium benzoate as catalyst at different condition.



Reaction carried out by using solvents acetonitrile ,ethanol, ethanol: water (1:1), methanol, water and solvent free condition at different temperature condition but best results are obtained by using water as solvent at room temperature. (table no. 1) also the amount of catalyst Sodium Benzoate used is 5 mole%, 10 mole%, 15 mole%, 20 mole% & 25 mole% best result are obtained by using 20 mole % of Sodium Benzoate catalyst so synthesis of various derivatives is carried out by using 20 mole% of Sodium Benzoate (table no. 2)

Optimization of Solvent

Sr. No	Solvent	Time in hr	Reaction Condition	Yield
1	Ethanol	1.5	R. T.	30 %
2	Ethanol	1.5	Reflux	25 %
3	Ethanol: Water (1:1)	1	R. T.	44 %
4	Ethanol: Water (1:1)	1	Reflux	49 %
5	Acetonitrile	7	R. T.	No reaction
6	Acetonitrile		Reflux	No reaction
7	Methanol	2	R. T.	45%
8	Methanol	2	Reflux	43%
9	Water	0.5	R. T.	90%
10	Solvent free	2	R. T.	No reaction
11	Solvent free	2	60°C	No reaction

Table - 1

Optimization of amount of catalyst Sodium Benzoate

Sr. No	Amount of catalyst Sodium Benzoate	Time in hr	Yield
1	5 mole%	1.5	75 %
2	10 mole%	1	77 %
3	15 mole%	1	83 %
4	20 mole%	0.5	90 %
5	25 mole %	0.5	87%

Table - 2

Summary

Sr. No.	Product	Yield	M.P.	Reported M.P.
1	H ₃ C N H O NH ₂	90 %	169ºС – 170ºС	169ºC – 170ºC
2	H ₃ C N H O NH ₂	85 %	212ºC – 213ºC	212ºC – 214ºC
3		84 %	212 °C – 213 °C	222 °C – 224 °C
4	H_3 H_3 H_4 H_2 H_2 H_2	80 %	250°C – 252°C	254ºC – 256ºC

5	H_3C H_3C N H O NH_2	89%	234°C – 236°C	234ºC – 236ºC
6	H ₃ C N N H O NH ₂	90%	217°C – 219°C	NA
7	H ₃ C N H H	90%	207 °C – 209 °C	208 °C – 210 °C

Conclusion

In conclusion, the study described in this project is about an efficient, rapid, and convenient synthesisof pyrano[2,3-*c*]pyrazole in a one-pot, four component reaction strategy using nontoxic, and easily available Sodium Benzoate (20mol%) as catalyst in water at R. T. The present method offers several advantages including higher yield and easy experimental workup procedure. Also one pot condensation, Easy workup procedure and high yield addresses towards green approach of this reaction.

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Shri Amolak Jain Vidya Prasarak Mandal's

Smt. Shantabai Kantilal Gandhi Arts, Amolak Science and Panalal Hiralal Gandhi Commerce College, Kada. Tal- Ashti Dist- Beed.



A Project Report on

"One Pot, efficient and facile synthesis of Tetrahydrobenzo[b]pyran using TBAB as catalyst"

Report of Project carried out as a part of curriculum for the degree of Master of Science in **"Organic Chemistry"**

Submitted by

Miss. Walake Sangita Maruti

UNDER THE GUIDANCE OF

Asst. Prof. Katariya A.P.

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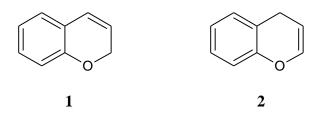
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Miss. Walake Sangita Maruti

Introduction

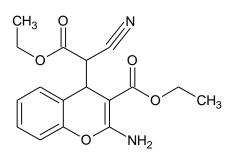
Unsaturated benzopyran derivatives, generally known as chromenes, form the fundamental unit of many biologically active natural products as well as synthetic therapeutic agents. The chromene nucleus is generally regarded as a privileged skeleton in medicinal chemistry. Due to oxygen atom presence in the structure, chromenes acquires broad pharmaceutical significance. Basically chromenes are the unsaturated form of chromons. 2H-chromene and 4H-chromene are the two major core structures which are present in most of the naturally existing synthetic compounds. It exists in two isomeric forms, 2H-chromene (1) and 4H-chromene (2) that can be distinguished by the site of unsaturation shown in figure below.

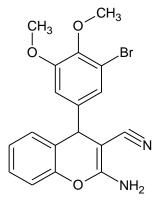


Further, fusion of benzene or naphthalene to the different sites of the chromenes ring results in various benzo and naphthochromenes, generating diverse molecular structure. Pyran derivatives are one of the most common compounds present in various biologically active natural and synthetic products. Among them, functionalized chromenes (benzopyrans) are also an important class of compounds, which constitute the structural unit of series of biologically active natural products and drugs. Chiefly, among various chromene derivatives, 2-amino-4H chromene

with cyano-functionality has potential applications in the treatment of rheumatoid, psoriasis, and cancer. Other properties such as laser dyes, optical brighteners, fluorescence markers, pigments, cosmetics, and potent biodegradable agrochemicals are well known for decades.

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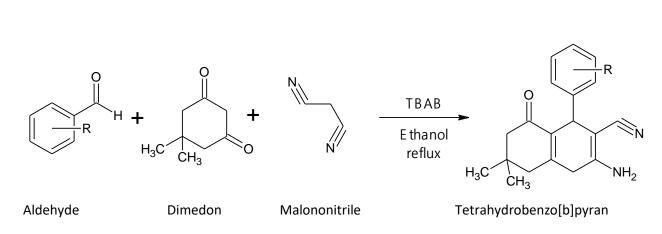




HA14-1 anticancer

Anticancer

Some Natural product containing Chromene Skeleton

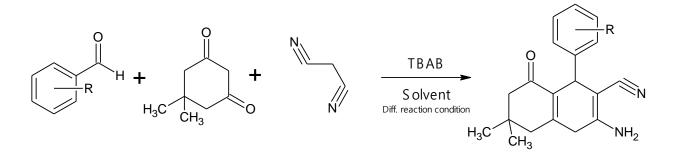


General Experimental Procedure for Tetrahydrobenzo[b]pyran

Aromatic aldehyde (10 mmol) and malononitrile (10 mmol) was added to a mixture of Dimedon (10 mmol) and catalytic amount of TBAB (15mol %) in ethanol (10 ml). The reaction mixture was refluxed for appropriate time. Solid is precipitated after some time (in some cases), After completion of reaction as confirmed by thin-layer chromatography (TLC) using eluent n-hexane–ethyl acetate (8:2) the reaction mixture was cooled to room temperature and poured onto crushed ice (50 ml). The product was collected by filtration, washed with water, and dried to give the corresponding derivatives of Tetrahydrobenzo[b]pyran and crystallized from ethanol.

Result and Discussion

Optimization study of solvent and amount of catalyst is done by taking an ideal condensation reaction of malononitrile, Benzaldeyde and Dimedon in presence of suitable solvent and TBAB as catalyst at different condition.



Reaction carried out by using solvents acetonitrile ,ethanol, ethanol: water (1:1), methanol, water and solvent free condition at different temperature condition but best results are obtained by using ethanol as solvent at reflux temperature. (table no. 1) also the amount of catalyst TBAB used is 5 mole%, 10 mole%, 15 mole%, 20 mole%& 25 mole% best result are obtained by using 15 mole % of TBAB as catalyst so synthesis of various derivatives is carried out by using 15 mole% of TBAB (table no. 2)

Optimization of Solvent

Sr. No	Solvent	Time in Min	Reaction Condition	Yield
1	Ethanol	240	R. T.	70 %
2	Ethanol	35	Reflux	85 %
3	Ethanol: Water (1:1)	60	Reflux	49 %
4	Acetonitrile	120	Reflux	No reaction
5	Methanol	60	Reflux	73%
6	Water	100	Reflux	No reaction
7	Solvent free	2	60 °C	No reaction

Table - 1

Optimization of amount of catalyst TBAB

Sr. No	Amount of catalyst TBAB	Time in min	Yield
1	5 mole%	80	75 %
2	10 mole%	60	77 %
3	15 mole%	35	85 %
4	20 mole%	40	80 %
5	25 mole %	40	82%

Table - 2

Summary

Sr. No.	Product	Yield	M.P.	Reported M.P.
1	O H ₃ C CH ₃ O NH ₂	85 %	233ºC – 234 ºC	233°C – 234 °C
2	H ₃ C CH ₃ O NH ₂	85 %	228ºC – 230ºC	228°C – 230°C
3	H ₃ C CH ₃ O NH ₂	84 %	212 °C – 213 °C	212 °C – 213 °C

4	$H_{3}C$ CH_{3} $H_{3}C$ CH_{3} N $H_{3}C$ CH_{3} O NH_{2}	70 %	234ºC – 235ºC	NA
5	$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	83%	190°С – 192°С	190°С – 192°С
6	CI CI CI H_3C CH_3 NH_2	80%	217ºC – 219ºC	214ºC – 217ºC
7	OH OH H ₃ C CH ₃ O NH ₂	80%	207 °C – 209 °C	205 °C – 206 °C

Conclusions

1. Present method offers several advantages including higher yield and easy experimental workup procedure. Also one pot condensation, Easy workup procedure and high yield addresses towards green approach of this reaction.

2. The study described in this project is about an efficient, rapid, and convenient synthesis of tetrahydrobenzo[b]pyran in a one-pot, three component reaction strategy using nontoxic, and easily available TBAB (15mol %) as phase transfer catalyst in ethanol at Reflux condition.

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Project Work 2018-2019 Economics

श्रीमती शांताबाई कांतीलाल गांधी कला, अमोलक विज्ञान व पनालाल हिरालाल गांधी वाणिज्य महाविद्यालय, कडा ता.आष्टी, जि.बीड

डॉ. बाबासाहेब आंबेडकर मराठवाडा विद्यापीठ औरंगाबाद अंतर्गत अर्थशास्र विषयातील बी.ए. तृतीय वर्षासाठी सादर करावयाचा प्रकल्प अहवाल

विषय:- "आष्टी तालुक्यातील पिकरचना विषयक अभ्यास "

संशोधक विद्यार्थी उकिर्डे सागर बाळासाहेब

संशोधन मार्गदर्शक प्रा.डॉ.अशोक मारुती कोरडे

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Shri Amolak Jain Vidya Prasarak Mandal's

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Certificate

This is to Certified that Ukirde Sagar Balasaheb of Class B.A. III Semester V and VI has satisfactorily completed his work project work in subject of Economics Entitled : "आष्टी तालुक्यातील पिकरचना विषयक अभ्यास" has laid down in the regulation of the Dr. Babasaheb Ambedkar Marathwada University Aurangabad during the academic year 2018-2019.

Paper No.	XII & XVI	Oral	Total
Out of	80	20	100
Marks Obtained	60	18	78

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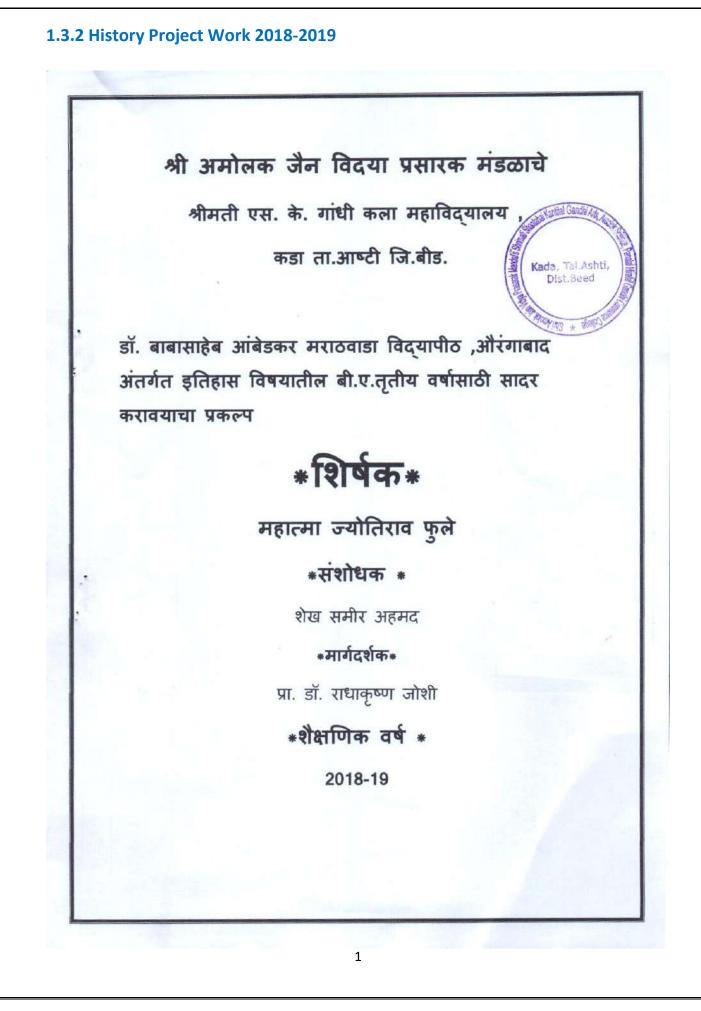
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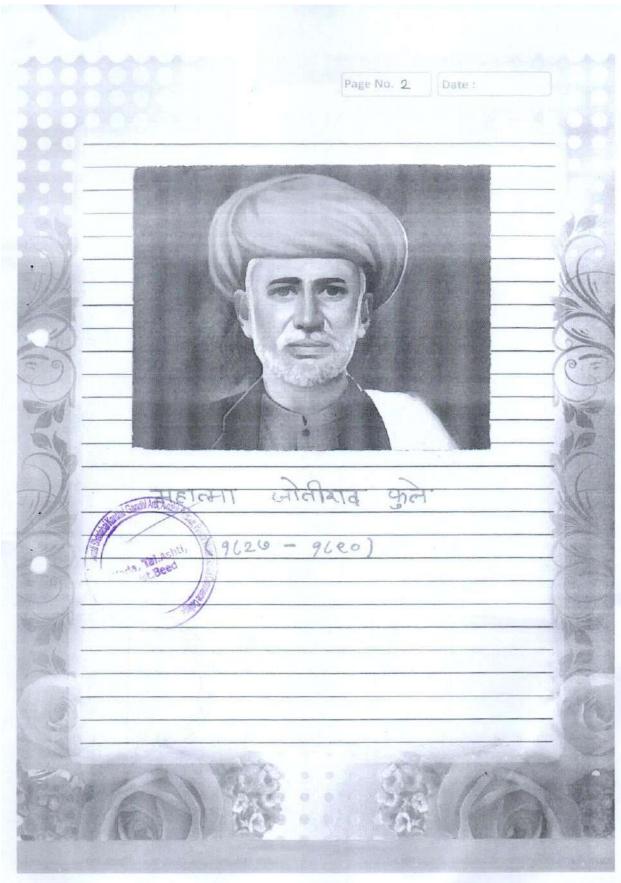


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Project Work 2018-2019 History



1.3.2 History Project Work 2018-2019



1.3.2 History Project Work 2018-2019

Vandal's Kada. Dist.Beed Page No. 3 महातमा जोलीशव 4101 3 रोपरालान - जोतीना , सहात्मा 99 CIAM. 9620 0020 ,2-11MRT 26 जोव्हेंबर, 9600 (वेभ ह3) Act 3-2 yor, HEILIOS -> सत्प्रांधक रासाज 2-1813 37 प्रमुख रमारक :) हिडे वाडा, रोज पेठ, पुणे GIH ·-> 185 - यामस पेन आणि हीवाजी महाराज AHID :-> गोविंदराव बोरीबा मुले. asia -> ान्धेमणाबाई फुले 3-115 स्नावित्रीताई फुले पत्नी " -> -> यहावत भुले (दत्तक) 3-14/2 3



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Project Work 2018-2019 Marathi



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ऋणनिर्देश

प्रस्तुत संशोधकार्य पुर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पुर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

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ठिकाण ः कडा, ता.आष्टी

संशोधक

शबास कासम शेख

दिनांक : 10 / 03/2018





ऋणनिर्देश

प्रस्तुत संशोधकार्य पुर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पुर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

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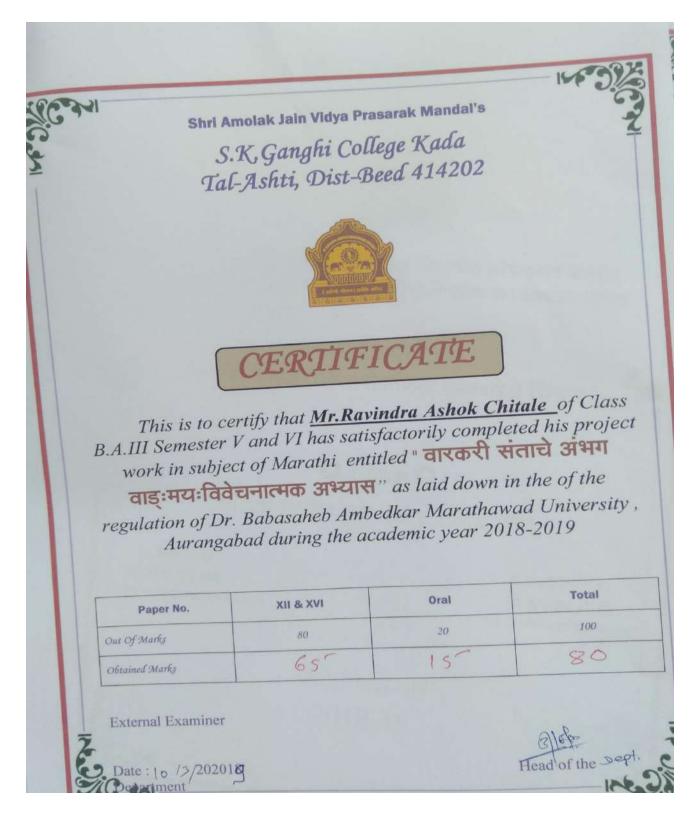
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ठिकाण ः कडा, ता.आष्टी

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श्री अमोलक जैन विद्या प्रसारक मंडळाचे एस.के.गांधी महाविद्यालय,कडा ता.आष्टी,जि.बीड



डॉ.बाबासाहेब आंबेडकर मराठवाडा विद्यापीठ औरंगाबाद अंतर्गत मराठी विषयातील बी.ए.तृतीय वर्षासाठी सादर करावायाचा प्रकल्प

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" मराठी कांदंबरीतील शैक्षणिक व्यवस्थेचे चित्रण "

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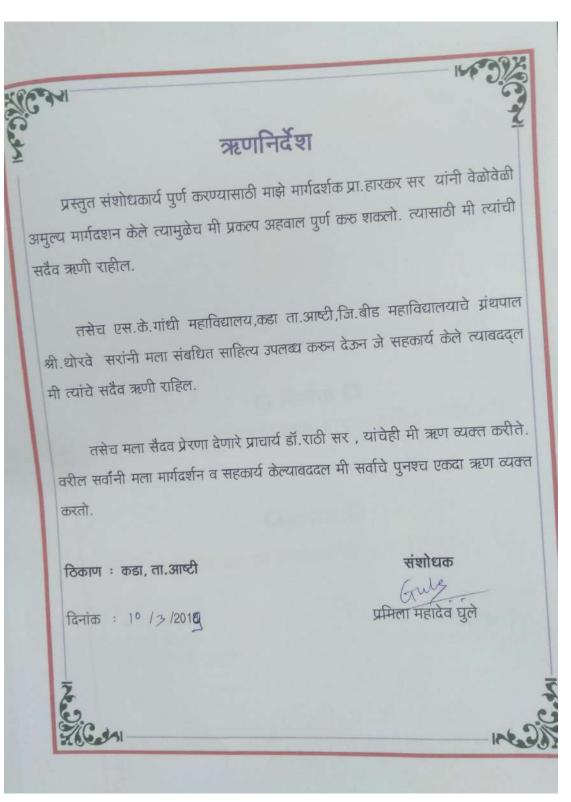
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्रप्राचार्य ۞ डॉ.राठी एन.एस. एस.के.गांधी महाविद्यालय.कडा

मराठी विभाग प्रा.हारकर डी.बी. एस.के.गांधी महाविद्यालय,कडा

शैक्षणिक वर्ष 2018-19







ऋणनिर्देश

प्रस्तुत संशोधकार्य पूर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पूर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

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दिनांक : 10 / 3 /2019





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प्रस्तुत संशोधकार्य पुर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पुर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

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ठिकाण ः कडा, ता.आष्टी

दिनांकः १० / ७ /२०१८

संशोधक कदमे



श्री अमोलक जैन विद्या प्रसारक मंडळाचे एस.के.गांधी महाविद्यालय,कडा ता.आष्टी,जि.बीड



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"मराठी कविताः आकलन आणि मूल्यमापन "

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आकाश उत्तम राठोड (बी.ए.तृतीय वर्ष)

⊖प्राचार्य**ः** डॉ.राठी एन.एस. एस.के.गांधी महाविद्यालय,कडा मराठी विभाग प्रा. हारकर डी. बी. एस.के.गांधी महाविद्यालय.कडा

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शैक्षणिक वर्ष 2018-19

ऋणनिर्देश

प्रस्तुत संशोधकार्य पुर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पुर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

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ठिकाण ः कडा, ता.आष्टी

दिनांक : 10 / 3 /2018

संशोधक

Rathod K.V. आकाश उत्तम राठोड





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ठिकाण ः कडा, ता.आष्टी

दिनांक : १० / ३ /२०१८

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ठिकाण ः कडा, ता.आष्टी

दिनांक : 10 / 3 /2018

संशोधक

देवेंद्र रावसाहेब सरगर



श्री अमोलक जैन विद्या प्रसारक मंडळाचे एस.के.गांधी महाविद्यालय,कडा ता.आष्टी,जि.बीड



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"मराठी जैन कथासाहित्याचा अभ्यासः कालखंड इ.स.1947 ते इ.स.2005"

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बोरकर सायली राजेंद्र (बी.ए.तृतीय वर्ष)

अप्राचार्य⊙ डॉ.राठी एन.एस. एस.के.गांधी महाविद्यालय,कडा मराठी विभाग प्रा. हारकर डी.बी. एस.के.गांधी महाविद्यालय,क्डा

शैक्षणिक वर्ष 2018-19

ऋणनिर्देश

प्रस्तुत संशोधकार्य पुर्ण करण्यासाठी माझे मार्गदर्शक प्रा.हारकर सर यांनी वेळोवेळी अमुल्य मार्गदशन केले त्यामुळेच मी प्रकल्प अहवाल पुर्ण करु शकलो. त्यासाठी मी त्यांची सदैव ऋणी राहील.

तसेच एस.के.गांधी महाविद्यालय,कडा ता.आष्टी,जि.बीड महाविद्यालयाचे ग्रंथपाल श्री.थोरवे सरांनी मला संबधित साहित्य उपलब्ध करुन देऊन जे सहकार्य केले त्याबदद्ल मी त्यांचे सदैव ऋणी राहिल.

तसेच मला सैदव प्रेरणा देणारे प्राचार्य डॉ.राठी सर, यांचेही मी ऋण व्यक्त करीते. वरील सर्वानी मला मार्गदर्शन व सहकार्य केल्याबददल मी सर्वाचे पुनश्च एकदा ऋण व्यक्त करतो.

ठिकाण ः कडा, ता.आष्टी

दिनांक : 10 /03/2020

संशोधक

<u>जिल्हेवते</u> लबडे कोमल अजिनाथ



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Smt. S.K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College, Kada Tal-Ashti, Dist-Beed (M.S.) 414202

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E-Mail – gandhicollegekada 1996@yahoo.co.in Affiliated to Dr. B. A. Marathwada University, Aurangabad

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Sr.	Course	Paper No.	Paper No. Name of Student	Title	PRN	Guide
No.						
-	B.A - T.Y.B.A Regular - P-2013	GEO-18-13	BIRANGAL SWATI ANNA		2016015200491027	Dr. Udhav
2	B.A - T.Y.B.A Regular - P-2013	GEO-18-13	KARDILE SAGAR CHHAGAN		2016015200382236	Chavan
3	B.A - T.Y.B.A Regular - P-2013	GEO-18-13	PATEL ALMAS RAFIK	A study of Land use changes in Sabalkhed	2016015200382542	
4	B.A - T.Y.B.A Regular - P-2013	GEO-18-13	PATHAN RESHMA RAJJAK	Village in Ashti Tehsil.	2016015200382631	
5	B.A - T.Y.B.A Regular - P-2013	GEO-18-13	SUMBE SACHIN SUDAM		2016015200514582	
	4 Page	DEPT.OF GEOGRAPHY	Pept.of Geography S.A.J.V.P.M.Kada * K.Gandhi Arts.Amolak Science Candhi Commerce College Tal.Ashti, Dist.Beed		Shri Amolok Jain Vidya Preserek Mendal's Shrimati Shantaba Usandial Qandhi Arts, Amolok Science, Panalal Mendal	ist alk Mandal's Situal Genedici

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