



SHRI SHIVAJI EDUCATION SOCIETY, AMRAVATI'S  
**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**



NAAC Accredited by Grade A with CGPA 3.13 (3rd Cycle)  
UGC awarded status of College with Potential for Excellence (2nd Phase)  
ISO 9000:2015 Certified College

Identified by DST , Govt. Of India for FIST & Sant Gadge Baba Amravati University as Lead College



**4<sup>TH</sup> Cycle**

**Assessment & Accreditation by NAAC**

**Criterion-I**

**CURRICULAR ASPECTS**

**Curriculum Enrichment**

**QnM – 1.3.3**

**Percentage of students undertaking project  
work/field work/ internships  
(Data for the latest completed academic year 2020-21)**

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Identified by DST for FIST and SGB Amravati University as Lead College

## Shri Shivaji Science College

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Ref. No.: SSSC/6471/IQAC/2021

Date: Nov. 22<sup>nd</sup>, 2021

### Declaration

The information, reports, true copies of the supporting documents, numerical data, etc. furnished in this file is verified by IQAC and found correct.

Hence this certificate.

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IQAC Coordinator  
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Chairman IQAC and Principal  
Shri Shivaji Science College,  
Amravati

**Year 2020-2021**

**Department of Bioinformatics**

List of Students under taking Project Work

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1	Vaishnavi Ramdas Akolkar
2	Monika M. Mahankar
3	Eshaal Mushtaque Husain Saudagar
4	Ambarish Abhijit Sahasrabudhe
5	Tejaswini Rajesh Watane
6	Shivani Sable
7	Vaishali Kishorilal Uike
8	Vaishnavi Khedekar
9	Sampada Sarad
10	Vaishanavi Vinay Bhamburkar
11	Akshata Dilip Kharbade
12	Trushita Manoj Pardakhe
13	Farheen Kausar Mohammad Aslam
14	Tejaswini Gunjal
15	Jayashri Bhagwanrao Chvan
16	Komal Shyam Devkate
17	Prajakta Pillewan
18	poonam Manikrao Tayade
19	Prajakta Prakashrao Wadal
20	Nitin Govardhan Adhav
21	Samiksha Pralhadrao Bidkar
22	Anjali Ram Pardakhe

Title and Place of Work

**Dissertation on**

**“Diversity of Spike protein sequences of SARS-CoV2 viruses  
isolated from the European countries’ population.”**

**Work done by**

**Miss. Vaishnavi Ramdas Akolkar**

**A thesis submitted in partial fulfillment of the requirements for the degree of**

**MASTER OF SCIENCE IN BIOINFORMATICS**

**Submitted to**

**Sant Gadge Baba Amravati University, Amravati (M.S.) – India**



**2020-2021**

**Guided by**

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## Project Work Completion



**DEPARTMENT OF BIOTECHNOLOGY  
BIOINFORMATICS CENTRE (SUB-DIC)  
Barkatullah University Bhopal - 462026 (M.P.), India**

Ref. 394.../Biotech/B.U./

Dated... 15/6/2021

### CERTIFICATE

This is to certify that the Project work on “**Diversity of Spike protein sequences of SARS-CoV2 viruses isolated from the European countries’ population**” is carried out by **Ms. Vaishnavi Ramdas Akolkar**, P. G. Department of Bioinformatics, Shri Shivaji Science College, Amravati (M.S.) – India for the partial fulfillment of the degree of Master of Science in Bioinformatics from S,G,B, Amravati University Amravati, during 4 Feb – 30 April, 2021. She has carried out her project work through online mode.

**Dr. Kishor K. Shende**  
(Information Officer)

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In-charge

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Prof. VINOY K. SHRIVASTAVA  
HEAD AND DEAN  
Department of Biosciences  
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## CONCLUSION

Diversity of Spike protein sequences of SARS-CoV2 viruses isolated from the European countries' population was studied. The emergence of specific patterns of mutations concomitant with the decline just in case mortality wants more confirmation and also the biological significance of such mutations remains unclear. A decreasing trend of case mortality has been ascertained among most Countries. The total sequence is 841. Phylogenetic analysis was carried out with 102 representative strains to comprehend monophyletic distribution of the SARS-CoV-2 population. To identify the number and the types of mutation across a total of SARS-CoV-2 strains, the 29 different types of mutation from the 841 strains were completely extracted in accordance with the nucleotide sequence. 20 mutations shown in Italy region out of 91 sequences with reference sequence Wuhan.

145 sequences are present in Serbia region and 30 sequences are mutant. In protein sequence 11 regions are 100% similar to the Reference sequence Wuhan China [NC\_045512]. Also denotes the category of amino acid changes in the tree. Phylogenetic analysis was done with the help of reference sequence Wuhan China [NC\_045512]. Dendrogram of Czech Republic, France, Germany, Greece, Malta, Italy, Netherland, Serbia, Spain, and Poland was prepared using MEGAX Software. The highest Frequency mutant is 30.4 in Czech Republic region. SARS –CoV2 confirmed frequency mutation from top three affected region in Czech Republic, Italy and Serbia.

In amino acid 3 type of category of amino acid sequences is observed: - Silent mutation, Influencing mutation and Synonymous mutation. Silent mutation is mutation in DNA that does not have an observable effect on the organism's phenotype. They are a specific type of neutral mutation. The phrase silent mutation is often used interchangeably with the phrase synonymous mutation; however, synonymous mutations are not always silent, nor vice versa. A synonymous mutation is a change in the DNA sequence that codes for amino acid in a protein sequence but does not change the encoded amino acid. Influencing mutations are causing major effects in phenotype of organisms.

Aspartic acid change to Glycine is a highly dangerous mutation. This mutation makes the strain much more infectious and transmissible. For Spike protein, the proportion of the samples with Aspartic acid to Glycine substitutions was roughly up to that of wild type variant that showed the ability of this substitution. This observation indicates that the mechanism of Spike protein for a high affinity human ACE2 binding is exclusive in nature Associate in Nature any mutation results in an unstable structure and this might be correlate with lower viability of those mutations containing isolates (Laha *et.al* 2020) [26]. Most samples with the Aspartic acid to Glycine mutation were powerfully related to one different mutation in ORF1ab region. These co-

**DISSERTATION**  
**ON**  
**“COMPUTER AIDED DRUG DESIGNING FOR TUBERCOLOSIS”**

**Dissertation work carried out**

**By**

**Miss Monika Murlidhar Mahankar**

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**Under the guidance of**

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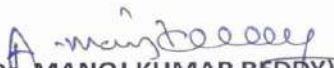
# ARAVINDA BIOSOLUTIONS

## CERTIFICATE

This is to certify that the project /Dissertation entitled “**NEW ETHAMBUTOL ANALOGUE DESIGN FOR TUBERCULOSIS THROUGH COMPUTATIONAL METHOD** “ is a Bonafide work done by **Miss.Monika Murlidhar Mahankar** Student of M.sc-II (P.G.Department of Bioinformatics, Shri Shivaji Science College ,Amravati) in partial fulfilment for Master of science Degree in Bioinformatics and has been carried out under the guidance of **DR. MANOJ KUMAR REDDY** At Aravinda BioSolutions, Hyderabad during the **February-2021 to May- 2021**. This Report or a similar report on the topic has not been submitted for any other examination and does not form a part of any other course undergone by the candidate.

  
(Mr. Raghu raj)  
Director



  
(Dr. MANOJ KUMAR REDDY)  
Project Guide

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## CONCLUSION

A comparison of the calculated binding free energies for structurally similar inhibitors to Protionamide molecule, indicates that the molecular mechanics methods would help better in identifying the suitable analogues. These results clearly shows that, before the synthesis and the biochemical testing of new analogs, one can use molecular mechanics based methods for qualitative assessment of relative binding affinities for speeding up drug discovery process by eliminating the less potent compounds from synthesis. Hence the Computer aided methods will greatly reduce the time and the money involved in the Drug design and Discovery process.

In this project, the inhibitor 6 with the substituents **OH** is identified as the most suitable analogues of trehalose in the present study. This need to be further analysed and evaluated in laboratory to successfully discover a new drug for the deadly disease, Tuberculosis.

**DISSERTATION**

**On**

**“Diversity of Spike protein sequences of SARS-CoV-2 viruses  
isolated from the population of Oceania”**

**Work done by**

**Ms. Eshaal Mushtaque Husain Saudagar**

**A thesis submitted in partial fulfillment of the requirements for the degree of**

**MASTER OF SCIENCE  
IN  
BIOINFORMATICS**

**Submitted to**

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**2020-2021**

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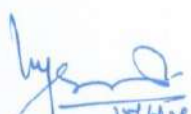
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This is to certify that the Project work on “**Diversity of Spike protein sequences of SARS-CoV-2 viruses isolated from the population of Oceania**” is carried out by **Ms. Eshaal Mushtaque Husain Saudagar**, P. G. Department of Bioinformatics, Shri Shivaji Science College, Amravati (M.S.) – India, for the partial fulfillment of the degree of Master of Science in Bioinformatics from S,G,B, Amravati University Amravati, during 4 Feb – 30 April, 2021. She has carried out her project work through online mode.

  
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## CONCLUSION

There is clearly a desire to learn more about the epidemiology and evolution of the virus that has recently emerged in humans as the cause of the coronavirus disease 2019 (COVID-19) pandemic. Our research aims to improve our understanding of SARS-CoV-2 from a phylogenetic and structural standpoint, with a focus on the functional and proteolytically sensitive sites of the S protein. Because of the close genetic similarity to bat coronaviruses, the origin of SARS-CoV-2 is thought to be bat-borne (96 percent). There is no concrete evidence that another host served as a reservoir for the virus before it was transmitted to humans, despite the virus's 92 percent similarity to pangolin coronaviruses.

When viruses are subjected to environmental selection pressures, they mutate and evolve, producing variants with increased virulence. This can be studied with the help of phylogenetics. Phylogenetics is the study of evolutionary relatedness among groups of organisms. Diversity of spike protein sequences of SARS-CoV-2 viruses isolated from the population of Oceania was studied. Oceania's Victoria state contained almost 98% of sequences of SARS-CoV-2 while other 2% sequences were seen in other states South Australia, Tasmania, Northern Territory and Melbourne. Most people travelled abroad and hence they were found to be COVID-19 positive. The phylogenetic analysis was done with the help of MEGAX including the reference sequence of Wuhan, China (NC\_045512.2). The analysis concluded that most of the mutations occurred in Victoria state. Out of 9,816 sequences total number of mutated sequences observed is 1,237 sequences.

From 1,237 sequences, 70 sequences were selected. With the help of same sequences amino acid sequences were analysed. In amino acid sequences, 3 types of mutations were noticed namely, silent, synonymous and influencing mutations with frequency 834, 160 and 244 respectively. Silent mutations detected with frequency of 834 and remarkably made highest frequency of mutations. Silent mutations do not affect amino acid sequence and phenotype of the organism as these are seen only in nucleotide sequences that only change the codon but not coded amino acids due to degeneracy of the codons. But synonymous amino acids change will not affect the protein functioning as there are the substitution of amino acids having similar physico-chemical properties. The influencing mutations do affect the amino acid sequence, phenotype of organism due to substitution of amino acid by difference in physico-chemical characteristics. This may increase the virulence which may be lethal to human life. Most of the variants of SARS-CoV-2 have mutations in spike protein region.

Dissertation on

**“Identify the mutation of Breast Cancer occurs in humans and check their quality by using the most dynamic tool.”**

Work done by

**Mr. Ambarish Abhijit Sahasrabuddhe.**

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE  
IN  
BIOINFORMATICS

Submitted to

Sant Gadge Baba Amravati University, Amravati (M.S.) - India



2020-2021

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Place: Pune, India

Date: 28<sup>th</sup> February, 2021

Mr. Rajesh Kumar Mahato

(Founder & CEO)

ArrayGen Technologies Pvt.Ltd.

P. G. DEPARTMENT OF BIOINFORMATICS

## 5. FUTURE ASPECTS

With the use of NGS, DNA-seq analysis helps to detect variant in the genome sample which is came under the reference genome. The variant detection in this disease (Breast cancer) will be helpful in future for whole genome sequencing, multiple detection in genes, pharmacogenomics and also for evolutionary studies. NGS and Dna-Seq are the best combination for every type of diseases and multiple detection so that in future it will create new history in biology.

## **DISSERTATION**

**On**

**Study of variations in the spike protein ORF sequence of SARS-CoV-2 virus isolated from the African Countries population**

**Work done by**

**Miss. Tejswini Rajeshrao Watane**

**A thesis submitted in partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE IN BIOINFORMATICS**

**Submitted to**

**Sant Gadge Baba Amravati University, Amravati (M.S.) – India**



**2020-2021**

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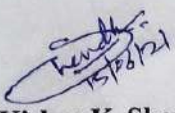
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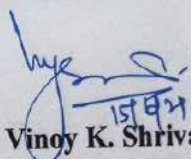
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**CERTIFICATE**

This is to certify that the Project work on "Study of variations in the spike protein ORF sequence of SARS-CoV-2 virus isolated from the African Countries' population" is carried out by Ms. Tejswini Rajeshrao Watane, P. G. Department of Bioinformatics, Shri Shivaji Science College, Amravati (M.S.) – India for the partial fulfillment of the degree of Master of Science in Bioinformatics from S,G,B, Amravati University Amravati, during 4 Feb – 30 April, 2021. She has carried out her project work through online mode.

  
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## CONCLUSION

The current study entitled, "Study of variations in the spike protein ORF sequences of SARS-CoV-2 virus isolated from the African Countries' population" was aimed to study the diversity among the spike gene and protein sequences of COVID-19 viral strains isolated from the African countries. Sequences were retrieved from NCBI Covid viral sequences portal. Analyzed countrwise using multiple sequence alignment methods and phylogenetic analysis. The observations made the conclusions as follows.

- The Africa region contains 12 countries: Benin, Egypt, Ghana, Kenya, Mali, Morocco, Nigeria, Sierra Leona, South Africa, Tunisia, Uganda, and Zambia.
- The NCBI contains total 726 genomes sequences (as on 17 March, 2021) of SARS-CoV-2 isolated from African countries as, Benin has 12 seq, Egypt has 504 seq, Ghana has 122 seq, Kenya has 2 seq, Mali has 2seq, Morocco has 12 seq, Nigeria has 3 seq, Sierra Leona has 10 seq, South Africa has 1 seq, Tunisia has 55 seq, Uganda has 2 seq and Zambia has 1 sequences. Total 147 representative sequences were selected out of 726 sequences. The representative sequences were selected from the set of 100% similar sequences.
- The spike gene sequences of the viral isolates from the countries Benin, Egypt, Ghana, Morocco, Sierra Leona and Tunisia showed the mutations.
- High levels of mutations in spike genes were observed in the viral strain isolated from Egypt. Total 45 sequences are observed as mutants out of 504 sequences.
- The highest level of diversity was observed among the spike proteins among the viral strains isolated from the country Tunisia (81.81%).
- The Africa region showed a total 147 mutation sequences and a total 99 sequences were selected.
- Amino acid showed 3 types of mutation like Silent, Synonymous and Influencing mutations with frequency 44,1, and 4 respectively.
- Silent mutations were noticed with highest frequency at 213 positions where change was seen in nucleotide sequence but not in amino acid sequence.
- Only one synonymous mutation was noticed i.e. 327G>T that causes the change in amino acids 109M>I of spike protein.
- The influencing mutations like 145L>H, 81.66I>T, 174.66T>M, 109M/I were observed where substitution is by physico-chemically different amino acid. Further analysis on structural aspects of these mutations needs to be done.
- These mutations increase genetic variation in the population, which may pass from one generation to the next generation.

Dissertation on

**‘To study the Exosomal MiRNA deep sequencing of hypertensive patients’**

Work done by

**Ms. Shivani Dinkarrao sable.**

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE  
IN  
BIOINFORMATICS

Submitted to

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2020-2021

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Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

ArrayGen Technologies Pvt.Ltd.

### **Future aspect**

Mechanism underlying cognitive impairment in hypertensive patient remain relatively unclear Hypertension is thought to affect the structure and function of cerebral blood vessel. NGS and miRNA seq are the best combination for every type of diseases and multiple detection so that in future it will create new history in biology



Dissertation on

**“Diversity of Spike Protein sequence of SARS-CoV2 viruses isolated from the North America Population.”**

**Work done by**

**Miss. Vaishali Kishorilal Uike**

**A thesis submitted in partial fulfilment of the requirement for the degree of**

**MASTER OF SCIENCE IN BIOINFORMATICS**

**Submitted to**

**Sant Gadge Baba university, Amravati (M.S.) –India**



**2020-2021**

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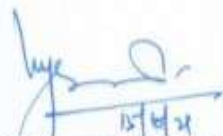
Dated...15/6/2021

**CERTIFICATE**

This is to certify that the Project work on “Diversity of Spike protein sequences of SARS-CoV-2 viruses isolated from the North American countries' population” is carried out by Ms. Vaishali Uike, P. G. Department of Bioinformatics, Shri Shivaji Science College, Amravati (M.S.) – India for the partial fulfillment of the degree of Master of Science in Bioinformatics from S,G,B, Amravati University Amravati, during 4 Feb – 30 April, 2021. She has carried out her project work through online mode.

  
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 HEAD AND DEAN  
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P.G. DEPARTMENT OF BIOINFORMATICS

### Conclusion

The current study on diversity of spike protein sequence of SARS-CoV2 viruses in North America population conclude that there are 32,815 sequences of spike protein coding gene were isolated and 5,513 sequences are selected as mutate sequence. Maximum mutation found in cytosine replaced by thymine with frequency 3111, Followed by guanine replaced by thymine with frequency 1005 and around 360 types of nucleotide changes observed in this region.

Likewise in protein sequence there are three type of mutational changes were observed namely SILENT , SYNONOMOUS & INFLUENCER maximum frequency observed in silent mutation(4272) followed by synonomous (550)and influencer (540) some of them shows no mutational change. Silent and synonomous mutation they do not show any observable effect on the organism's they are specific type of 'neutral mutation'. While influencer show affect on gene which may influence disease. According to some studies on variants of corona virus reported that (D→G) Aspartic acid changes to Glycine in spike gene of SARS-CoV2 result in high transmissibility and rapidly spreading of disease, While D→Y result in enhancement of structural stability of spike protein and, increase its affinity for receptor. In our current study we found around 19 D→G & 45 D→Y.

While doing multiple sequence alignment and phylogenetic analysis we got evolutionary relationship of mutating sequences with respect to reference sequence NC\_045512.2. after selecting representative sequences of that mutant sequence we got 50 compile sequence with 130 frequency which are 100% similar to reference sequences. That 130 sequences are formed different different cluster of sequences in phylogeny tree with their similar sequences.

### Conclusion Remark

The conclusion of the whole study is as follows:

1. To study the pandemic statistic of North America region:
  - The continent North America we studied contains 6 country with one island.
  - Namely USA, Canada, Mexico, Guatemala, Jamaica, Belize, and Puerto Rico Island.
  - USA is highly infected country in North America, it contain 52 states.
2. To understand the diversity and relationship of spike gene sequence and protein sequence.
  - Total 32815 sequences are isolated, out-off them 5513 sequences are mutate.
  - Maximum diversity observes in California State of USA (21%).
  - There are total 8628 sequences in California out-off them 1817 are mutate.
  - Belize and Jamaica with 0 mutate, while Canada with 2 and Mexico with 120 mutate sequence.

**DISSERTATION  
ON  
FEILD CROP DATABASE**

Work done by

**Miss. Vaishnavi Lahadeorao Khedkar**

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A thesis submitted in partial fulfillment of the requirements for the degree of

**MASTER of Science IN BIOINFORMATICS**

**Submitted to**

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2020-2021

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## Certificate

*This is to certify that Miss. Vaishnavi Khedkar completed the project – “Field crop database.” Under my guidance and submitted the project report. Laid down by Shri Shivaji Science College, Amravati. The material that has been obtained from other source is duly, acknowledged in the dissertation. It is further certified that the work or its part has not been, submitted to any other university for examination under my supervision. I consider this work worthy for the award of degree of M.Sc. Bioinformatics.*



Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

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- **Conclusion-**

Big data is able to process and store that data and probably in bulk of amount in soon future. Hopefully, technology will get better. New technologies and tools that have ability to record, monitor measure and merge all kinds of data surrounding us, needs to be introduced very soon. Industries need new technologies and tools for anonymizing data, analysis, tracking and inspecting information, sharing and maintaining, private data in future. So many aspects of life which generates the big data on daily basis that manages big data world need to be shined as possible.

**DISSERTATION  
ON  
HORTICULTURE CROP DATABASE**

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- **Conclusion-**

Big data is able to process and store that data and probably in bulk of amount in soon future. Hopefully, technology will get better. New technologies and tools that have ability to record, monitor measure and merge all kinds of data surrounding us, needs to be introduced very soon. Industries need new technologies and tools for anonymizing data, analysis, tracking and inspecting information, sharing and maintaining, private data in future. So many aspects of life which generates the big data on daily basis that manages big data world need to be shined as possible.

**Future Aspect :**

Horticulture crop database is the wonderful technique in database management system in Agriculture database.

Agriculture producers are using computerized database management system to maintain and analyse their records..... Crops, livestock, and payroll records are all commonly maintained with database management system.

Precision agriculture's main objective is to ensure profitability, efficiency, and sustainability using the big data gathered to guide both immediate and future decision-making. This could cover everything – from when it is best to apply fertilizers, chemical and seeds, to from where in the field it is best to apply a rate.

According to agriculture funders, the big data practice comprises capturing relevant data from a huge number of sources, collecting it today and translating it into actionable information to improve business processes and solve problems at scale and speed.

**DISSERTATION ON**

**“Study of variations in the spike protein ORF sequences of SARS-CoV-2 virus isolated from the Asian Country’s & population”**

**Work done by  
Ms. Vaishnavi Vinay Bhamburkar**

**A thesis submitted in partial fulfillment of the requirements for the degree  
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**Submitted to**

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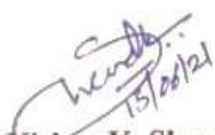
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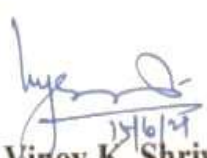
Dated..... 15/6/2021

### CERTIFICATE

This is to certify that the Project work on “Study of variations in the spike protein ORF sequences of SARS-CoV-2 virus isolated from the Asian Countries’ population” is carried out by Ms.Vaishnavi Vinay Bhamburkar, P. G. Department of Bioinformatics, Shri Shivaji Science College, Amravati (M.S.) – India, for the partial fulfillment of the degree of Master of Science in Bioinformatics from S,G,B, Amravati University Amravati, during 4 Feb – 30 April, 2021. She has carried out her project work through online mode.

  
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(Information Officer)

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## CONCLUSION

The Study of coronavirus disease 2019 (COVID-19) pandemic in Asia region is a tremendous threat globally. The current population of Asia is 4,669,140,239 as of March 18-2021, based on the latest United Nations estimates. In Asian country's 17,725,946 people are affected by covid-19 virus. In which 15,651,219 cases are recovered and 304,660 people are deaths. In Asia China leads the cases count with more infections but India is a close second with over confirmed cases so far.

The Diversity of spike protein sequences of SARS-CoV-2 viruses isolated from the population of Asia was studied. In Asia India(58) and Bangladesh(34) country contained almost 60% of sequences of SARS-CoV-2 while other 40% sequences were seen in other Country Kazakhstan(1), Lebanon(1), Iran(2), Sri Lanka(1), Malaysia(1), Georgia(1), Myanmar(1), Israel(2), Timor-Leste(1), West Bank(2), Thailand(1), Jordan(1), Philippines(1), Iraq(2), Taiwan(1), South Korea(1), Pakistan(7), Turkey(3), Saudi Arabia(3), Hong Kong(5), Bahrain(10), Japan(9),China(2). Aspartic acid change to Glycine is a highly dangerous mutation on 8 positions. Most people travelled abroad and hence they were found to be COVID-19 positive. The phylogenetic analysis was done with the help of a reference sequence of Wuhan, China (NC\_045512.2). The analysis concluded that most of the mutations were observed in spike protein of viral genomes isolated from India. Till date 21-2-2021, out of 2,212 sequences total numbers of mutated sequences observed are 196.

From 196 sequences, distinct 137 sequences were selected. With the help of the same sequences amino acid sequences were analysed with the help of MEGA software. In amino acid sequences, 3 types of mutations were noticed namely, silent (16), synonymous (17) and influencing (18) mutations. Influencing mutations detected with frequency of 18 and remarkably made the highest frequency of mutations. . Silent mutations do not affect amino acid sequence and phenotype of the organism as these are seen only in nucleotide sequences that only change the codon but not the coded amino acids due to degeneracy of the codons. But synonymous amino acids change will not affect the protein functioning as there are the substitutions of amino acids having similar physico-chemical properties. The influencing mutations do affect the amino acid sequence, phenotype of organism due to substitution of amino acid by difference in physico-chemical characteristics. This may favour the virulence factor which may be lethal to human life. Most of the variants of SARS-CoV-2 have mutations in the spike protein region. In spike protein sequence, mutations like 251T/C, 17T/G, 1T/A, 110C/T, 1C/G, 3C/A, 2C/Y, 2A/C, 3A/G, 2G/C, 12G/A, 24G/C observed. Further analysis on these mutations needs to be done.

**DISSERTATION  
ON  
MEDICINAL CROP DATABASE**

Work done by

Miss. Akshata Dilip Kharbade

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A thesis submitted in partial fulfillment of the requirements for the degree of

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*Rajesh*

Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

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• **Conclusion-**

Big data is able to process and store that data and probably in bulk of amount in soon future. Hopefully, technology will get better. New technologies and tools that have ability to record, monitor measure and merge all kinds of data surrounding us, needs to be introduced very soon. Industries need new technologies and tools for anonymizing data, analysis, tracking and inspecting information, sharing and maintaining, private data in future. So many aspects of life which generates the big data on daily basis that manages big data world need to be shined as possible.

**DISSERTATION**

On

**“POLYMERASE CHAIN REACTION PRIMER  
DESIGNING”**

**Work done by**

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*Rajesh*

Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

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## Primer3 Output

PRIMER PICKING RESULTS FOR PARP1\_HUman

No mispricing library specified

Using 1-based sequence positions

OLIGO	start	Len	tm	gc%	any	3' seq
LEFT PRIMER			7281	20	59.99	60.00 4.00 2.00
CTGTCCCTCTCCAACAGCTC						
RIGHT PRIMER			7508	20	60.02	55.00 5.00 3.00
GTAGCGCAAGGGTTCAGAAG						

SEQUENCE SIZE: 47403

INCLUDED REGION SIZE: 47403

PRODUCT SIZE: 228, PAIR ANY COMPL: 4.00, PAIR 3' COMPL: 1.00

1

TAGAGAAGGCATCTGCATTTTTAATCGAGTATTACTATTAGCC  
CTTGGGTAAGTATATTT

Dissertation on

**“16S Targeted Metagenomics: To Identify The Bacteria Present In Crohn’s Disease Samples”**

Work done by

**Miss. Farheen Kausar Mohammad Aslam**

The thesis submitted in partial fulfillment of the requirements for the degree of

**MASTER OF SCIENCE  
IN  
BIOINFORMATICS**

Submitted to

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[ NAAC Re-accredited with A- Grade (Very Good)]

**2020-2021**

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Place: Pune, India

Date: 28<sup>th</sup> February, 2021

Mr. Rajesh Kumar Mahato

(Founder & CEO)

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## DISSERATION

ON

**Rna Seq Analysis STB5 Overexpression in Saccharomyces cerevisae**

Worked done by

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Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

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#### 4. FUTURE ASPECTS

With the use of targeted metagenomics sequencing analysis helps to detect and compare the bacteria present in the sample isolated from faeces and surgery isolated tissue of Crohn's disease patients. The bacteria detected in this disease (CD) will be helpful in further study related to this disease or other types of inflammatory bowel disease (IBD).

16S targeted metagenomics is the best combination for every type of microbial studies and multiple detection of known and unknown bacterial families for more comprehensive results and insightful findings.

# DISSERTATION

On

“Diversity of Spike protein sequences of SARS-CoV-2 viruses isolated from the South American countries population”

Work done by

**Ms. Jayashri Bhagwanrao Chavan**

A thesis submitted in partial fulfillment of the requirements for the degree of

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Submitted to



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Dated.. 15/6/2021

**CERTIFICATE**

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**Dr. Kishor K. Shende**  
(Information Officer)

बाबादेवराजराजी विभाग  
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**Prof. Vinoy K. Shrivastav**  
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**Prof. VINOY K. SHRIVASTAVA**  
HEAD AND DEAN  
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Bhopal-462026 (M.P.) INDIA

## CONCLUSION

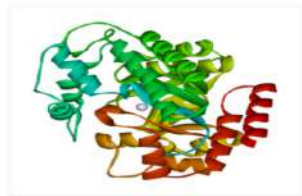
The total sequences studied are 562. Phylogenetic analysis was carried out with the help of MEGAx software. 25 representative strains to comprehend monophyletic distribution of the SARS CoV 2 population. To identify the number and the types of mutation across a total of SARS CoV2 strains, the 16 different types of mutation from the 25 strains were completely extracted in accordance with the nucleotide sequences.

- The South America region contains 8 countries: Venezuela, Uruguay, Peru, Ecuador, Colombia, Chile, Brazil, and Argentina.
- The NCBI contains total 562 genomes sequences (as on 17 March, 2021) of SARS-CoV-2 isolated from South America as, Venezuela has 7 seq, Uruguay has 8 seq, Peru has 95 seq, Ecuador has 4 seq, Colombia has 4 seq, Chile has 383 seq, Brazil has 18 seq and Argentina has 43 sequences. Total 175 representative sequences were selected out of 562 sequences. The representative sequences were selected from the set of 100% similar sequences.
- The spike gene sequences of the viral isolates from Peru, Ecuador, Chile, and Argentina. Countries showed the mutations.
- High levels of mutations in spike genes were observed in the viral strain isolated from Peru. Total 12 sequences are observed as mutants out of 562 sequences.
- The highest level of diversity was observed among the spike proteins among the viral strains isolated from the country Ecuador (25%).
- The South America region showed a total 175 mutation sequences and a total 25 sequences were selected.
- Amino acid showed 3 types of mutation like Silent, Synonymous and Influencing mutations with frequency 12, 1, and 11 respectively.
- Silent mutations were noticed with 2 frequencies at 615A>G positions where change was seen in the nucleotide sequence but not in the amino acid sequence.
- Only one synonymous mutation was noticed i.e. 662T>C that causes the change in amino acids 221V>A of spike protein.
- The influencing mutation frequency is 9 observed at position 8A>G in nucleotide condition and in protein it shows category in influencing at position 3D>G.
- Amino acid mutation 8D>G is a highly dangerous mutation observed in the spike protein sequence of SARs CoV-2. This mutation makes the strain much more infectious and transmissible.
- These mutations increase genetic variation in the population, which may pass from one generation to the next generation.

**THE PROJECT REPORT**

**On**

**“NEW PENTOSTATIN ANALOG DESIGN FOR BLOOD CANCER THROUGH COMPUTATIONAL METHODS”**



**by**

**Miss. Komal Shyam Devkate**

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**A thesis submitted in partial fulfilment of the requirement for the degree of  
MASTER OF SCIENCE IN BIOINFORMATICS**

**Submitted to**



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**Under the guidance of**

**Mr. Manoj Kumar Reddy**

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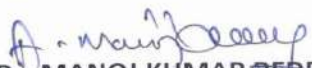
# ARAVINDA BIOSOLUTIONS

## CERTIFICATE

This is to certify that **Miss. Komal Shyam Devkate** has completed the dissertation entitled "**NEW PECTOSTATIN ANALOGE DESIGN FOR BLOOD CANCER THROUGH COMPETITIONAL METHODS**" Under the supervision and guidance of Dr. Manoj Kumar Reddy at Aravinda Biosolutions, Hyderabad, submitted the project report during **February-2021 to May-2021** Laid down by **Sant Gadge Baba Amaravati University**. This dissertation is original, and no part of this work is either published or submitted in any university for the award of any degree or diploma. I consider this work worthy for the award of degree of Master of Science in Bioinformatics.

  
(Mr. Raghu raj)  
Director



  
(Dr. MANOJ KUMAR REDDY)  
Project Guide

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Phone: 091-40-66628773, 9391187818

**P.G. Department of Bioinformatics2021****17. CONCLUSION:**

Comparisons of the calculated binding affinities for structurally similar Inhibitors to **PENTOSTATIN** indicate that the molecular mechanics methods can be used before synthesis and biochemical testing of new analogs, one can use molecular mechanics-based methods for qualitative assessment of relative binding affinities for speeding up drug discovery process by eliminating less potent compounds from synthesis.

One of the most common disease among the world is the **BLOOD CANCER**. Molecular modelling has been used to design a drug for the **BLOOD CANCER** using **PENTOSTATIN** –an existing drug. This drug has been used by using hyperchem varying the R groups – OH, the binding energies for these compounds have been calculated. The compound having the least binding free energy is considered to be more stable and has maximum binding affinity. Docking of this molecule has been done using the protein **ADENOSINE DEAMINASE** by the use of GOLD software. This yielded the value – -27.849219 for **R-CH3**, which is least among the other R group values. Thus, the molecule having R group- OH, CH3, NHOH is more suitable for treating the disease.

Dissertation on

**“Database on Taxonomy, Economic and Medicinal potential of Weeds”**

Work done by

**Miss. Prajakta Tarkeshwar Pillewan**

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE  
IN  
BIOINFORMATICS

2020-2021

Submitted to

Sant Gadge Baba Amravati University, Amravati (M.S.) - India



-Under the Guidance of –

**Mr. Rajesh Kumar Mohato**

Founder & CEO,  
ArrayGen Technologies Pvt. Ltd.  
Pune, Maharashtra, India.

And

**Dr. Ganesh Hedawoo**

Assist. Prof. P.G. Department of Botany,  
Shri Shivaji Science College, Amravati

P. G. Department of Bioinformatics,  
Shri Shivaji Science College, Amravati (M.S.) – India

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Raj Tower 3rd Floor, Shivaji Chowk,  
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Website: [www.arraygen.com](http://www.arraygen.com)

CIN No.: U74900PN2015PTC157410

## Certificate

*This is to certify that Miss. Prajakta Pillewan completed the project – “Database on Taxonomy, Economic and Medicinal potential of weeds” Under my guidance and submitted the project report. Laid down by Shri Shivaji Science College, Amravati. The material that has been obtained from other source is duly, acknowledged in the dissertation. It is further certified that the work or its part has not been, submitted to any other university for examination under my supervision. I consider this work worthy for the award of degree of M.Sc. Bioinformatics.*



Place: Pune, India

Date: 28<sup>th</sup> February, 2021

Mr. Rajesh Kumar Mahato

(Founder & CEO)

ArrayGen Technologies Pvt.Ltd.



Scanned with CamScanner

## ii) Conclusion

Weeds database provide the comprehensive source of information for weeds. Each search record provides the wide range of annotated information like botanical name, common name, Family, Fruits, Flowers, Habit, Stem, Seeds information and Ecological benefits, Medicinal properties information their uses. This Database will help for upcoming research, students for systematic study of weeds plants and their potential. In this work of database tried to do something new innovative for further use in detail study.



## **DISSERATION**

**On**

**“New Acetylcholine esterase inhibitors design for Parkinson’s disease”**

**Worked done by**

**Miss. Poonam Manikrao Tayade**

**P.G. Department of Bioinformatics,**

**Shri. Shivaji Science College, Amravati -444603**

**Maharashtra, India.**

**A thesis Submitted in partial fulfilment of the requirement for the degree of  
MASTE OF SCIENCE IN BIOINFORMATICS**

**Submitted to**



**Shri. Shivaji Science college, Amravati**

**Sant Gadge Baba Amravati University, Amravati (M.S)- India**

**Under the guidance of**

**Mr. Manoj Kumar Reddy**

**Bioinformatics Division**

**Arvinda Bio solutions Pvt, Ltd**

**#311, Windsor plaza, Nallakunta, Hyderabad – 500044.**

**Mobile: 9959561177**

**Website: [www.arvindabio.com](http://www.arvindabio.com)**

**Shri. Shivaji Science College, Amravati**

**[NAAC Re-accredited with A- Grade (very Good)]**



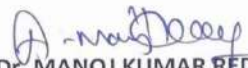
# ARAVINDA BIOSOLUTIONS

## CERTIFICATE

This is to certify that the project / Dissertation entitled “**NEW ACETYLCHOLINE ESTERASE INHIBITORS DESIGN FOR PARKINSON’S DISEASE.**” Is a bonafide work done by **Miss. Poonam Manikrao Tayade** student M.Sc-II (P.G.Department of Bio-informatics, Shri.Shivaji Science college, Amravati) in partial fulfilment of Master of Science Degree in Bioinformatics and has been carried out under the supervision and guidance of **Dr. Manoj Kumar Reddy (Bioinformatics Division) at Arvinda Biosolution Pvt,Ltd Hyderabad** during **February-2021 to May-2021**. This report or a similar report on the topic has not been submitted for any other examination and does not form a part of any other course undergone by the candidate.

  
(Mr. Raghu raj)  
Director



  
(Dr. MANOJ KUMAR REDDY)  
Project Guide

### Aravinda Biosolutions

(a division of Aravinda Technologies)  
# 311, Windsor Plaza, Nallakunta,  
Hyderabad - 500 044

URL: [http:// www.arvindabio.com](http://www.arvindabio.com), [enquiry@arvindabio.com](mailto:enquiry@arvindabio.com)  
E-mail: [arvindabio@gmail.com](mailto:arvindabio@gmail.com)  
Phone: 091-40-66628773, 9391187818

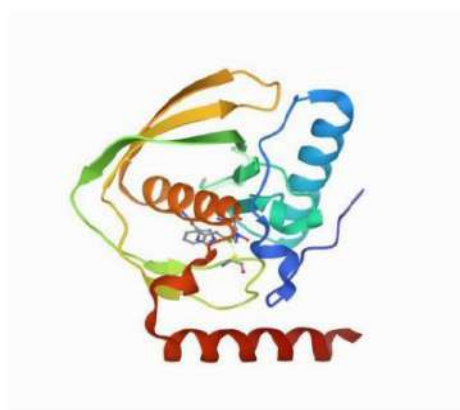
## Conclusion:

In this work, the binding modes of the putative/proposed inhibitors were obtained by carefully aligning them with the known crystal structures of inhibitors in the active site of the **Acetylcholinesterase**. The technical details used for estimating relative binding affinities using energy components obtained from minimizations of each inhibitor, both in solvent as well as in complex phases, were explained by four stage protocol as described in the methodology section. A comparison of the relative binding affinities for structurally similar Inhibitors to **RIVASTIGMINE** indicates that the molecular mechanics methods gave suitable analogues. These results clearly indicate that before synthesis and biochemical testing of new analogs, one can use molecular mechanics based methods for qualitative assessment of relative binding affinities for speeding up drug discovery process by eliminating less potent compounds from synthesis. The inhibitors with the substituent's are identified as the most suitable analogues in the present study need to be further evaluated in laboratory.

## **THE PROJECT REPORT**

**On**

### **“NEW CHLORPROGUANIL ANALOG DESIGN FOR BREAST CANCER THROUGH COMPUTATIONAL METHODS”**



**BY**

**Miss. Prajakta Prakashrao Wadal**

**P.G. Department of Bioinformatics,**

**Shri. Shivaji Science college, Amravati-444603**

**Maharashtra, India.**

**A thesis submitted in partial fulfilment of the requirement  
for the degree of**


**MASTER OF SCIENCE IN BIOINFORMATICS**



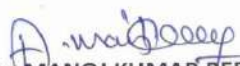
# ARAVINDA BIOSOLUTIONS

## CERTIFICATE

This is to certify that **Miss. Prajakta Prakashrao Wadal** has completed the dissertation entitled “**NEW CHLORPROGUANIL ANALOG DESIGN FOR BREAST CANCER THROUGH COMPUTATIONAL METHODS**” Under by (Dr. Manoj Kumar Reddy at Aravinda Biosolutions, Hyderabad) guidance submitted the project report, Laid down by **Sant Gadge Baba Amravati University** during **February-2021 to May-2021**. This dissertation is original, and no part of this work is either published or submitted in any university for the award of any degree or diploma. I consider this work worthy for the award of degree of Master of Science in Bioinformatics.

  
(Mr. Raghu raj)  
Director



  
(Dr. MANOJ KUMAR REDDY)  
Project Guide

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(a division of Aravinda Technologies)  
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Hyderabad - 500 044

URL: [http:// www.arvindabio.com](http://www.arvindabio.com), [enquiry@arvindabio.com](mailto:enquiry@arvindabio.com)  
E-mail: [arvindabio@gmail.com](mailto:arvindabio@gmail.com)  
Phone: 091-40-66628773, 9391187818

## CONCLUSION

Comparisons of the calculated binding affinities for structurally similar Inhibitors to **CHLORPROGUANIL** indicate that the molecular mechanics methods gave suitable analogues. These results clearly indicate that before synthesis and biochemical testing of new analogs, one can use molecular mechanics-based methods for qualitative assessment of relative binding affinities for speeding up drug discovery process by eliminating less potent compounds from synthesis.

The inhibitor **4** with the Substituent **R=CH<sub>3</sub>** is identified as the most suitable analogue in the present study that needs to be further evaluated in the laboratory.

P. G. DEPARTMENT OF BIOINFORMATICS

## DISSERATION

ON

**De novo RNA – Seq Data Analysis**

Worked done by

**Mr. Nitin Govardhan Adhav**

P.G Department of bioinformatics,

Shri. Shivaji Science College, Amravati-444603

Maharashtra, India.

A thesis Submitted in partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN BIOINFORMATICS

Submitted to



Shri Shivaji Science collage, Amaravati

Sant Gadge Baba Amravati University, Amravati (M.S.) – India

Under the guidance of

Mr. Rajesh Kumar Mahato

(Founder & CEO )

ArrayGene Technologies Pvt. Ltd.

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**Mobile:** +91 9673625446

**Website:** [www.arraygen.com](http://www.arraygen.com)

**CIN No.:** U74900PN2015PTC157410

## Certificate

*This is to certify that **Mr. Nitin Adhav** completed the project – “**De Novo Rna-Seq Data Analysis**” Under my guidance and submitted the project report. Laid down by **Shri Shivaji Science College, Amravati**. The material that has been obtained from other source is duly, acknowledged in the dissertation. It is further certified that the work or its part has not been, submitted to any other university for examination under my supervision. I consider this work worthy for the award of degree of **M.Sc. Bioinformatics**.*



Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

ArrayGen Technologies Pvt.Ltd.



## 5. FUTURE ASPECT

RNA sequencing(RNA-seq) has significantly advanced our knowledge of biological systems. The evolutionary transition from single-celled to multicellular growth is a classic and intriguing problem in biology. *Saccharomyces cerevisiae* is a species of yeast (single-celled fungus microorganisms). ....iron, calcium, and zinc, are also required for good growth of the yeast..... and the myosin ring together are the beginning of the future division site. *Saccharomyces cerevisiae* is a useful model to study questions regarding cell aggregation, heterogeneity and cooperation. : facultative multicellularity; cell differentiation; cell specialization; cooperation; starvation; spatial structure; aging; metabolic cooperation; adaptation; evolution; AMN1 gene; yeast exometabolome.

Dissertation on

**“To study explored the underlying molecular events of Jaridon 6’s anti-tumor activity in esophageal cancer cells through the cDNA microarray.”**

Work done by

**Ms. Samiksha Pralhadrao Bidkar**

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE  
IN  
BIOINFORMATICS

Submitted to

Sant Gadge Baba Amravati University, Amravati (M.S.) - India



2020-2021

Guided by

**Mr. Rajesh Kumar Mahato**  
Founder & CEO,  
ArrayGene Technologies, Pvt.Ltd  
Pune, Maharashtra, India.

P. G. Department of Bioinformatics,  
Shri Shivaji Science College, Amravati (M.S.) – India



**DISSERTATION**

On

**“Denovo Based RNA Seq Analysis”**

**Work done by**

**Miss. Anjali Ram Pardakhe**

P.G Department of Bioinformatics,  
Shri.Shivaji Science College Amravati-444603  
Maharashtra, India.

A thesis submitted in partial fulfillment of the requirements for the degree of

**MASTER OF SCIENCE IN BIOINFORMATICS**

**Submitted to**



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Under the guidance of

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Mobile: +91 9673625446  
Website: [www.arraygen.com](http://www.arraygen.com)  
CIN No.: U74900PN2015PTC157410

## Certificate

This is to certify that **Miss. Anjali Pardakhe** completed the project – **“Denovo Based RNA Sequence Analysis.”** Under my guidance and submitted the project report. Laid down by **Shri Shivaji Science College, Amravati**. The material that has been obtained from other source is duly, acknowledged in the dissertation. It is further certified that the work or its part has not been, submitted to any other university for examination under my supervision, I consider this work worthy for the award of degree of **M.Sc. Bioinformatics**.



*Rajesh*

Place: Pune, India

Mr. Rajesh Kumar Mahato

Date: 28<sup>th</sup> February, 2021

(Founder & CEO)

ArrayGen Technologies Pvt. Ltd.

**Department of Botany**

List of Students under taking Project Work

<u>S.No.</u>	Name of the Student
1	Aditi <u>Nilkanthrao Khonde</u>
2	Amruta Abhiman Atram
3	Apurva Parmanand Wankhade
4	Divyani Sunil <u>Muratkar</u>
5	Kalyani <u>Diliprao Ande</u>
6	Kanak Sanjay <u>Bakhade</u>
7	Manisha Rajendra Kadu
8	Nikita <u>Anilrao Zade</u>
9	Nikita Chetan Kale
10	Pranali Vilasrao <u>Shekokar</u>
11	Pratiksha <u>Gajananrao Thakare</u>
12	Rani <u>Jaykisanrao Mate</u>
13	Reshma Sunil Chavhan
14	Rutuja <u>Sanjayrao Gudadhe</u>
15	Sayyed <u>Asmeen Ali Abdul Sattar</u>
16	Shraddha <u>Sureshrao Pawar</u>
17	Ishwari Y. Bure
18	Shabnum <u>Dadhore</u>
19	Vaishnavi <u>Bhond</u>
20	Mrunali Gorde
21	Supriya <u>Olokar</u>
22	Vaishnavi <u>Banokar</u>
23	Vishal <u>Mitari</u>

Title and place of the work

**“Germplasm Collection of Different Plant Types From  
Arvi Taluka (M.S.)”**

PROJECT REPORT

SUBMITTED TO SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AS A PARTIAL  
FULFILMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN BOTANY IN THE FACULTY OF SCIENCE

BY

**Aditi Nilkhantrao Khonde**

M.SC.II (BOTANY)

SUPERVISOR

**DR. GANESH B. HEDAWOO**

ASST. PROFESSOR

DEPARTMENT OF BOTANY

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

PLACE OF WORK



DEPARTMENT OF BOTANY

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**NAAC RE-ACCREDITED WITH "A" GRADE**

2020-2021

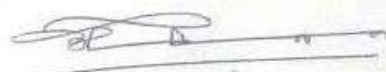
Project Work Completion

CERTIFICATE

This is to certify that I have been supervising the project work of **Miss. Aditi N. Khonde** entitled “**Germplasm collection of different plant types from Arvi Talukafor M.S.)**” for the partial fulfillment of Master of Science in Botany in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.

Place – Amravati

Supervisor :




**Dr .Ganesh B. Hedawoo**

Asst. professor,

Department of Botany,

ShriShivaji Science College, Amravati.

Forwarded By :



**Prof. B. K. Dorkar**

Ass. Professor & Head

P.G. DEPARTMENT OF BOTANY,

ShriShivaji Science college,

Amravati



### Conclusion

The present study of the area of Ambikapur Arvi Taluka Wardha District shows the number of various localities collected on germplasm found in Arvi Taluka area along with their local name family on germplasm. The present study records fifty three species of germplasm representing Twenty one families.

For the most part agricultural production is focused on germplasm collection and leveraging theoretical and empirical community sampling knowledge to activate the good crops. The environment and farming socioeconomic and culture aspects the raw material for breeders, to grow various crops and gathering and storage of germplasm materials and take new urgency.

They are fifty three species are collected on germplasm

- Total seventeen types of vegetable plant
- Total seven types of legume plant
- Total six types of spices plant
- Total four types of oil seed crop
- Total eleven types of fruit plant
- Total two types of medicinal plant
- Total two types of cereal crop
- Total two types of millet crop
- Total two types of pulses crop

**SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI**  
**MAHARASHTRA – 444603**

A UGC Awarded College With Potential For Excellence NAAC  
Reaccredited “A” “Very Good” Grade



**PROJECT REPORT**

**PHYTOCHEMICAL AND ANTIBACTERIAL STUDY OF ABUTILON  
INDICUM**

Submitted to Sant Gadge Baba Amravati University, Amravati

as a partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss. Amruta A. Atram M.Sc.**

II (Botany)

**SUPERVISOR**

**Dr. Tushar B. Wankhede**

Associate Professor

Department Of Botany Shri. Shivaji

Science College, Amravati

2020-2021

## CERTIFICATE

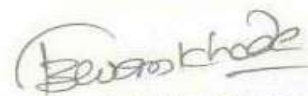
This is to certify that **Miss. Amruta A. Atram** Department of Botany, Shri Shivaji Science College, Amravati has completed her project report entitled

**“PHYTOCHEMICAL AND ANTIBACTERIAL STUDY OF ABUTILON INDICUM ”** submitted for award of the degree of Master of Botany during the year **2020-2021** under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

Place: Amravati

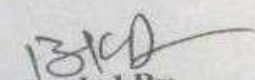
Date:

Roll No: 70033



**Dr. Tushar B. Wankhede**

Associate Professor  
Dept. of Botany  
Shri Shivaji Science College,  
Amravati



**Forwarded By**  
**Prof. B. K. Dorkar**  
Head, Dept. of Botany  
Shri Shivaji Science College Amravati.

## CHAPTER FIVE

### DISCUSSION AND CONCLUSION

The extensive survey literature review that *Abutilon indicum* Linn. Is and importance medicinal plant with diverse pharmacological spectrum. Most of pharmacological studies have been carried out with extract of the different part of the plant. The present review summarizes some important pharmacological studies an hepatoprotective, wound healing, immunomodulatory analgesic antimalarial, antimicrobial, and hypoglycemic activities of *Abutilon indicum* and phytochemical Investigation and isolated principles from them, which can be investigated further to achieve lead molecules in the search of novel herbal drugs. Due to medicinal Properties is a enormous scope for future research an *Abutilon indicum* and further chemical and pharmacological investigations should be conducted to investigate unexploited potential in the plant.

*Abutilon indicum* have many more pharmacological properties such as the main chemical constituents being carbohydrates, steroids, glycosides, tannins, saponins, phenols, flavonoids compounds. Hence, in this reviews article, efforts has been taken to collect and complete details notes on *Abutilon indicum* which will be useful to the society to venture into fixed of alternative system of medicine.

**Shri Shivaji Science College, Amravati. (MH)**



**PROJECT REPORT**

**“Morphology and Cultivation Practices of Edible Mushroom”**

Submitted to Sant Gadge Baba Amravati University, Amravati.  
(MH)

As a partial fulfilment for The Degree of

**Master of Science in Botany**

In the faculty of Science By  
**Miss. Apurva P. Wankhade**  
M. Sc. II (Botany)

Under the Supervision of

**Dr. D. V. Hande**  
Professor

Dept Of Botony  
Shri Shivaji Science College, Amravati. (MH)

**Place of Work**

**Department of Botany**  
Shri Shivaji Science College Amravati MH

**2020 – 2021**

*Preliminary phytochemical and antimicrobial activity of Coccinia grandis*

## CERTIFICATE

This is to certify that Miss. Wankhade Apurva Parmanand Department of Botany, Shri Shivaji Science College, Amravati has completed her project report entitled “Morphology and Cultivation practices of Edible Mushroom” submitted for award of the degree of Master of Botany

during the year 2020-2021 under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

Place: Amravati

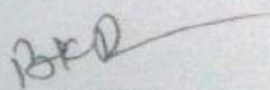
Date: 26/08/2021.

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**Dr. D. V. Hande**

Associate Professor  
Dept. of Botany  
Shri Shivaji Science College,  
Amravati



**Forwarded By**  
**Prof. B. K. Dorkar**  
Head, Dept. of Botany  
Shri Shivaji Science College Amravati.

SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI, 2020-21

P  
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## Conclusion

Modern biotechnological tools and computer aided environmental control will break the yield barriers. Share of the specialty mushrooms including the medicinal mushrooms will rise further and mushroom cultivation is likely to spread all over the world. Newer methods of culture preservation, spawn and substrate preparation for the mushrooms are being worked upon. Modern developments in packaging, storage, transport, and processing including the value-addition of food items will be extended to mushrooms, which will further boost its consumption and production. Researches on the utilization of post-mushroom substrate have thrown light on immense usefulness of this venture for production of food, feed, fuel, and fertilizer from the wastes through mushroom cultivation

**DIVERSITY OF ARBUSCULAR  
MYCORROZIAL FUNGI (AMF) associated  
with Raulfia serpentina**

**-: PROJECT REPORT:-**

**Submitted to Sant Gadge Baba Amravati University,  
Amravati as a partial fulfillment for the Degree of**

**MASTER OF SCIENCE IN BOTANY**

**In the faculty of Science.**

**-:By:-**

**Miss. Divyani sunil muratkar**

M.Sc. II (Botany)

**-: SUPERVISOR:-**

**Dr. Rekha C. Maggirwar**

Asso. Professor  
Department of Botany,  
Shri Shivaji Science College, Amravati.

**-: PLACE OF WORK:-**



**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**NAAC Reaccredited "A Grade" College with CGPA 3.13 in Third Cycle  
2020-2021**



## CERTIFICATE

*This is to certify that work incorporated in the project entitled*  
**“ Diversity of Arbuscular Mycorrhizal Fungi (AMF) Associated with raulfia serpentina From Amravati”**

*Submitted by Divyanisunilmuratkar was carried out by candidate herself under my supervision for the degree of Master of Science in botany.*

Place: Amravati

Date:

*Rcmaggirwar*

Supervisor:-

**Dr. Rekha C. Maggirwar**

Associate Professor

Department of Botany,

Shri Shivaji Science College, Amravati.

Forwarded by:

**Dr. B. K. Dorkar**

*BKD*

Head, P.G. Department of Botany,

Shri Shivaji Science College,

Amravati.

## Conclusion

- Rauwolfia serpentina found to be and association with AM fungi
- Rauwolfia serpentina root powder is useful for lowering and managing the blood pressure
- Rauwolfia serpentina is one of the natural herbal medicinal with wide spectrum of therapeutic effects.
- Resprine present in the root binds the vesicular monoamines transporter and inhibites the uptake of norepinephrin into secretory vesicles and deplets serotonin and catecholamines from the central and peripheral axon terminals

- Rauwolfia serpentine is believed to cure anxiety, psychosis, and epilepsy.
- The present review work will shed new insights on the potential of R. serpentina as antioxidant, anticancerous, antidiuretic, antiarrhythmic, antidysentry, antidiarrhoeal antihypotensive, anticontractile, and tranquillizing agent
- Identification of both host as well as AMF specific protein factors regulating symbiotic association and the major cellular and metabolic pathways under different environmental stresses can be hot areas for future research in this field
- The pot culture was maintained to develop culture of variable spores. For sustainable development of agriculture the native most dominant and some more species of AMF can be taken into account in near future as biofertilizer after its mass multiplication.

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NAAC Reaccredited “A” “Very Good”  
Grade**



**PROJECT REPORT**

**Molecular Phylogeny of Some Members of Family Liliaceae Using  
rbcL and atpB Gene Sequences**

Submitted to Sant Gadge Baba Amravati University, Amravati as  
a partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

**By**

**Miss. Kalyani Dilip Ande**

**M.Sc.II(Botany)**

**Supervisor**

**Prof. Avinash Darsimbe**

Assistant Professor

Department Of

Botany Shri. Shivaji Science College  
Amravati

**Place of work**

DEPARTMENT OF BOTANY

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2021-2022**

## CERTIFICATE

This is to certify that **Miss. Kalyani Dilip Ande** Department of Botany, Shri Shivaji Science College, Amravati has completed his project report entitled “Molecular Phylogeny of Some Members of Family Liliaceae Using rbcL and atpB Gene Sequences” submitted for award of the degree of Master of Botany during the year **2021-2022** under my guidance and this work has not formed on the basis for award of any degree, diploma ,associated fellowship, or other title in the this University or Institute of higher learning.

Place:Amravati Date:

Roll no:



**Prof. Avinash Darsimbe**

Assistant Professor Dept  
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Forwarded by



**Prof. B. K. Dharakar**  
Head, Department of Botany

Shri Shivaji Science College, Amravati

## CHAPTER-V

### CONCLUSION

The present investigation shows that the *rbcL* gene and *atpb* gene are the two structural genes which are prominently used for phylogenetic analyses as they show a clear and well distinguished categorization of different genera of family Liliaceae.

This fact clear during study when the sequence data of *rbcL* and *atpb* gene subjected to Clustal-W for phylogenetic analyses. In both the phylogenetic tree of *rbcL* and *atpb* gene of different taxa of family Liliaceae, only one taxa was found in cluster-II while all other are found in same cluster, cluster-I.

These results shows that the analyses of the chloroplast *rbcL* and *atpb* gene was a useful approach for inferring phylogenetic relationship especially at the supergeneric level.

# Shri Shivaji Science College, Amravati



## PROJECT REPORT

### “Importance of Ethno-Medicinal Plants and Herbal Remedies with respect to Amravati area”

Submitted to Sant Gadge Baba Amravati University, Amravati

As a partial fulfilment for The Degree of

Master of Science in Botany

In the faculty of Science

By

**Mr. KANAK S. BAKHADE**

M. Sc. II (Botany)

Under the Supervision of

**Dr. Bhupendra K. Dorkar**

Professor & Head

Department of Botany

Shri Shivaji Science College, Amravati.

Place of Work

Department of Botany

Shri Shivaji Science College Amravati

2020 - 2021

**-: CERTIFICATE :-**

This is to certify that the work incorporated in the project entitled '**Importance of Ethno-Medicinal Plants and Herbal Remedies with respect to Amravati area**' submitted by **Mr. Kanak S. Bakhade** was carried out by the candidate himself under my supervision for the partial fulfilment of degree of Master of Science in Botany during academic year 2020 – 2021.

**Place: -** Amravati

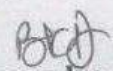
**Date: -**

**Supervisor: -**



**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
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Amravati.

**Forwarded by: -**



**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
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Amravati.

## CONCLUSION

This study contributed to the establishment of an inventory of plant based medicines used by korku tribe inhabited in Chikhaldara of Melghat Tiger Reserve, Amravati, Maharashtra, India. A total of 51 inhabitants were interviewed during the survey to document the indigenous knowledge about the use of wildy growing medicinal plants. The paper summarizes a adata of 48 plant species used to treat 101 common ailments. RFC values ranked *Syzygium cumini*; *Ficus religiosa*, *Euphorbia hirta*, *Butea monosperma* as top most cited and well known species in the area. A vast number of ailments were cured by this community with the help of these locally growing medicinal plants. The data provided by informants of the korku tribe clearly shows that they are still dependent on the indigenous knowledge of medicinal plants. This novel information has provided rich ethnopharmacological knowledge that will provide basis for new avenues in future for the pharmacological screening of novel natural compounds which can be used to improve healthcare systems. However, detailed pharmacological investigations must be carried out to improve



**Shri Shivaji Science College, Amravati**



**PROJECT REPORT**

**“Study of Medicinal Flora and Ethno-Botanical knowledge from Amravati District”**

Submitted to Sant Gadge Baba Amravati University, Amravati. (MH)

As a partial fulfilment for The Degree of

**Master of Science in Botany**

In the faculty of Science

By

**Miss. Manisha R. Kadu**

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Under the Supervision of

**Dr. Bhupendra K. Dorkar**

Professor & Head

Department of Botany

Shri Shivaji Science College, Amravati.

**Place of Work**

**Department of Botany**

Shri Shivaji Science College Amravati

**2020 - 2021**


**-: CERTIFICATE :-**

This is to certify that the work incorporated in the project entitled '**Study of Medicinal Flora and Ethno-Botanical knowledge from Amravati District**' submitted by **Miss. Manisha R. Kadu** was carried out by the candidate himself under my supervision for the partial fulfilment of degree of Master of Science in Botany during academic year 2020 – 2021.

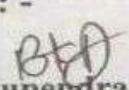
**Place: - Amravati**

**Date: -**

**Supervisor: -**

  
**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
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Amravati.

**Forwarded by: -**

  
**Dr. Bhupendra K. Dorkar**  
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Amravati.

*Preliminary phytochemical and antimicrobial activity of Coccinia grandis*

**SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI MAHARASHTRA –  
444603**

**A UGC Awarded College With Potential For Excellence NAAC  
Reaccredited “A” “Very Good” Grade**



Project Report

**PHYTOCHEMICAL AND ANTIBACTERIAL STUDY OF COCCINIA GRANDIS**

Submitted to Sant Gadge Baba Amravati University, Amravati as a partial

Fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss. Nikita A. Zade .**

M.Sc. II (Botany)

Supervisor

**Dr. Jushar B. Wankhede**

Associate Professor

Department Of Botany

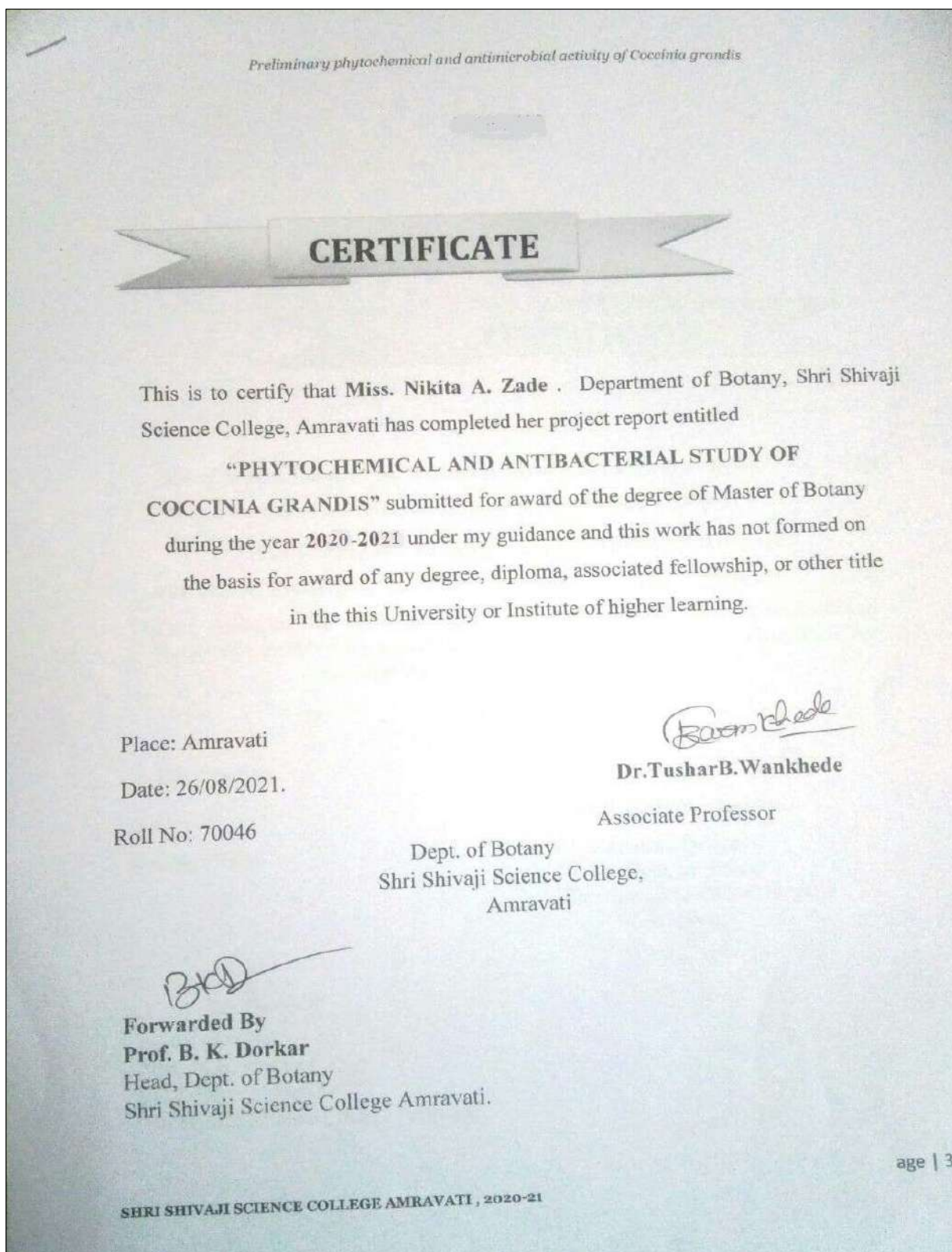
Shri. Shivaji Science College, Amravati

Place of work

**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2019-2020**



## CHAPTER FIVE

### Conclusion

The literature survey revealed that Coccinia grandis has been widely studied for its pharmacological activities and regarded as Universal Panacea in Ayurvedic medicine.

It can be concluded that Coccinia grandis is an important source of many pharmacological and medicinally important chemicals . From this study , it is clear that the medicinal plants play a fundamental role against various diseases. Plant extracts have significant analgesic ,antipyretic , anti- inflammatory , antimicrobial , antiulcer ,antidiabetic , antioxidant, hypoglycemic , hepatoprotective , antimalarial, antidyslipidemic ,anticancer , antitussive mutagenic activity in different models .

**Shri Shivaji Science College, Amravati. (MH)**



**PROJECT REPORT**

**“Survey of Ethnomedicinal properties of plants with reference to health ”**

Submitted to Sant Gadge Baba Amravati University, Amravati.  
(MH)

As a partial fulfilment for The Degree of

**Master of Science in Botany**

In the faculty of Science By

**Miss. Nikita Chetan Kale**

M. Sc. II (Botany)

Under the Supervision of

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**Place of Work**

**Department of Botany**

Shri Shivaji Science College Amravati MH

**2020 - 2021**

## CERTIFICATE

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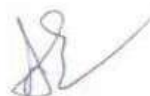
“Survey of Ethnomedicinal properties of Plant with reference to Health”  
submitted for award of the degree of Master of Botany

during the year 2020-2021 under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

Place: Amravati


Date: 26/08/2021.

Roll No: 70046



**Dr. D. V. Hande**

Associate Professor  
Dept. of Botany  
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Amravati



Forwarded By  
Prof. B. K. Dorkar  
Head, Dept. of Botany  
Shri Shivaji Science College Amravati.

SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI, 2020-21

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## CONCLUSION

The plants are now in wide use under the name herbal. It is now fashion or trend to use herbal products but most of the herbal product producers makes adulteration that caused harmful effects rather than the useful effect. So protect us from these harmful effects the given measures can used for weight gain naturally. The biomolecules present in the plants used for weight gain produces thermic effects. Most of the plants content the metal ions or essential oil that are work as the cofactor or promotor of the enzymes involved in the catabolism o fat. These plants contain the fibers regulating the digestive functioning on body helping in the proper metabolism of body. These are medicinal plants, so care must be taken. Use the home remedies directed in the project work just like medicine not in much more quantities. I hope this work will be useful for the persons searching for natural methods for weight gain.



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**MAHARASHTRA - 444603**  
**A UGC Awarded College With Potential For**  
**Excellence NAAC Reaccredited “A” “Very**  
**Good” Grade**



**PROJECT REPORT**

**Soil Quality ,Crop Selection And Crop Rotation.**

Submitted to Sant. Gadge Baba Amravati University Amravati as a  
partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss.Pranali Vilasrao Shekokar**

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**Place of work**

DEPARTMENT OF BOTANY  
**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**  
**2020-2021**

## CERTIFICATE

This is to certify that **Miss. Pranali V. Shekokar** Department of Botany, Shri. Shivaji Science College, Amravati has completed his project report entitled “**Soil Quality, Crop Selection And Crop Rotation**” submitted for award of the degree of Master of Botany during the year **2020-2021** under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

Place: Amravati

Date:

Roll no:



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Associate Professor

Dept. of Botany,

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Amravati

Forwarded by



**Prof. B.K. Dorkar**

Head, Department of Botany

Shri Shivaji Science College, Amravati

**“ARBUSCULAR MYCORRHIZAL FUNGI (AMF)  
ASSOCIATED WITH VITAX  
NEGUNDOFROMAMRAVATI”**

***-: PROJECT REPORT:-***

**Submitted to SantGadge Baba Amravati University,  
Amravati as a partial fulfillment for the Degree of**

**MASTER OF SCIENCE IN BOTANY**

**In the faculty of Science.**

**-: By:-**

**Miss. PratikshaGajananraoThakare**

M.Sc. II (Botany)

**-: SUPERVISOR:-**

**Dr. Rekha C. Maggirwar**

Asso. Professor  
Department of Botany,  
ShriShivaji Science College, Amravati.

**-: PLACE OF WORK:-**



**DEPARTMENT OF BOTANY**

**SHRISHIVAJI SCIENCE COLLEGE, AMRAVATI.**

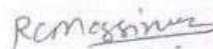
**NAAC Reaccredited "A Grade" College with CGPA 3.13 in Third Cycle  
2020-2021**

## CERTIFICATE

*This is to certify that work incorporated in the project entitled  
“Arbuscular Mycorrhizal Fungi (AMF) Associated with Vitax Negundo From Amravati”  
Submitted by Pratiksha G. Thakare was carried out by candidate herself under my supervision  
for the degree of Master of Science in botany.*

Place: Amravati

Date:




Supervisor:-

**Dr. Rekha C. Maggirwar**

Associate Professor

Department of Botany,

Shri Shivaji Science College, Amravati.

Forwarded by: 

**Dr. B. K. Dorkar**

Head, P.G. Department of Botany,

Shri Shivaji Science College,

Amravati.

**CHAPTER- 5****CONCLUSION**

- *VitexNeugundais* found to be associated with AM fungi.
- Vitexnigundo (Nirgundi) possesses numerous biological activities provided by many experimental studies. It represents a crucial herbal drug with very strong conceptual or traditional base also as strung experimental base for its uses.
- Vitexnegundo is one of the very important plants which have wide applications in traditional systems of medicines.
- All parts of the plant, from root to fruits, possess a multitude of phytochemicals as secondary metabolites; nishindaside, mussaenosidic acids, vitedoin, negundin and vitexin are some important bioactive agents which impart a variety of medicinal uses to the plant. It is highly hepatoprotective, anticonvulsant and also anticancer. Besides its therapeutic properties it is also reported to have larvicidal, repellent and pesticidal activities. However, different phytochemicals from the plant has been isolated and studied for their pharmacological activities but still trials are required at pre-clinical and clinical levels before drug designing.
- Vitexnegundo is used for treating stored garlic against pests and as a cough remedy in the Philippines, sold under the trade names Ascof and Plemex. The Food and Drug Administration of the Philippines has also approved clinical trials for Vitexnegundo, locally known as lagundi, as a supplemental treatment for COVID-19 patients.
- In Malaysia, it is used in traditional herbal medicine for women's health, including treatments for regulating the menstrual cycle, fibrocystic breast disease and post-partum remedies. It has antiseptic, astringent, anti-inflammatory and antipyretic properties.
- In the US, it grows in hardiness zones 6–9 and its purple flowers bloom most of the summer and it is a popular plant visited by bees and butterflies.

**SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI MAHARASHTRA – 444603**

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NAAC Reaccredited “A” “Very Good” Grade



**PROJECT REPORT**

**SYSTEMATIC STUDY AND MEDICINAL USES OF FAMILY RUTACEAE**

Submitted to Sant Gadge Baba Amravati University, Amravati

As a partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss. Rani J. Mate**

M.Sc. II (Botany)

Supervisor

**Dr. Swati V. Pundkar**

Assistant Professor

Department of Botany

Shri. Shivaji Science College, Amravati

Place of work

**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2020-2021**


## CERTIFICATE

This is to certify that Miss. Rani J. Mate Department of Botany, Shri Shivaji Science College, Amravati has completed her project report entitled 'SYSTEMATIC STUDY AND MEDICINAL USES OF FAMILY RUTACEAE' submitted for award of the degree of Master of Botany during the year 2020-2021 under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.


Place : Amravati

Date :

Roll No. :

  
Dr. Swati V. Pundkar

Assistant Professor  
Dept. of Botany  
Shri Shivaji Science College, Amravati

Forwarded By   
Prof. B. K. Dorkar  
Head. Dept. of Botany  
Shri Shivaji Science College Amravati.

### Discussion and Conclusion :-

Rutaceae, the rue family of flowering plants. Rutaceae includes woody shrubs and trees and is distributed throughout the world, especially in warm temperate and tropical regions.

The family is important for citrus fruits like orange, lemons, sweet lemon and grape fruit. This family is ranked 11th in food production.

The most of the plant family rutaceae have medicinal importance. Their fruits are rich source of vitamins and minerals. Most of vitamin C is obtained from these fruits.

The systematic study of Rutaceae Family. I have been studied 9 plants of Rutaceae family. The family Rutaceae commonly known as citrus family. The belongs to order sapindales. The family is the economically most important.

In selected plants *Aegle mormelos*, *Murraya koenigii*, *Limonia acidissima*, *Citruslimon*, *citrusreticulated*, *citrus sinesis*, *citrus paradisi*, *citrusaurantifolia*, *chloroxylonsvietenia*.

In this plant, there are some characters are similar. Leaves gland dotted, simple or compound. Flower hermaphrodite, hypogynous, actinomorphic with a disc below the ovary, corolla polypetalous, stamens ten, obdiplostemonous, carpels 5 or many, ovary superior, multilocular, fruit capsule or berry, aromatic odour is present.

Rutaceae is related to the Meliaceae sapindaceae and Anacardiaceae in habit, leaf structure, presence of disc around the ovary and obdiplostemonous condition of androecium. The family Rutaceae is also related to Euphorbiaceae on account of the presence of ventral raphe of the ovule in some genera.

The fruit in Rutaceae is basically a capsule that splits open between the internal partitions although it has been modified into a number of other types of most families for example, in Rutaceae one finds capsules (eg. Ruta, rue), drupes (Amyris's torch wood), berries (Thriphasia lime berry), Samaras (hop tree), and Schizocarps (Helietta, barreta). The fruit of citrus is a modified berry with a thick rind called a hesperidium, after the golden apples of the Hesperides.



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**Maharashtra– 444603**

**A UGC Awarded College With Potential For  
Excellence NAAC Reaccredited “A” “Very Good”  
Grade**



**PROJECT REPORT**

**Molecular Phylogeny of Some Members of Family Poaceae Using  
rbcL and matK Gene Sequences**

Submitted to Sant Gadge Baba Amravati University ,Amravati as  
apartial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss. Reshma Sunil Chavhan**

**M.Sc.II(Botany)**

**Supervisor**

**Prof. Avinash Darsimbe**

Assistant Professor

Department Of

Botany

Shri. Shivaji Science College ,Amravati

**Place of work**

**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2021-2022**

## CERTIFICATE

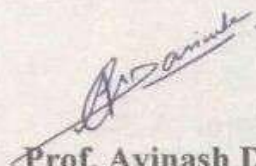
TE

This is to certify that **Miss. Reshma Sunil Chavhan** Department of Botany, Shri Shivaji Science College, Amravati has completed his project report entitled "Molecular Phylogeny of Some Members of Family Poaceae Using rbcL and matK Gene Sequences" submitted for award of the degree of Master of Botany during the year **2021-2022** under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

Place: Amravati

Date:

Rollno:



**Prof. Avinash Darsimbe**

Assistant Professor

Dept. of Botany

Shri Shivaji Science College,  
Amravati

Forwarded by



**Prof. B. K. Dorkar**

Head, Department of Botany

Shri Shivaji Science College, Amravati

## CONCLUSION

The present investigation shows that the *rbcL* gene and *matK* gene are the two structural genes which are prominently used for phylogenetic analyses as they show a clear and well distinguished categorization of different genera of family Poaceae.

This fact clear during study when the sequence data of *rbcL* and *matK* gene subjected to Clustal-W for phylogenetic analyses. In both the phylogenetic tree of *rbcL* and *matK* gene of different taxa of family Poaceae, only one taxa was found in cluster-II while all other are found in same cluster, cluster-I.

These results shows that the analyses of the chloroplast *rbcL* and *matK* gene was a useful approach for inferring phylogenetic relationship especially at the supergeneric level.

# Shri Shivaji Science College, Amravati



## PROJECT REPORT

### “Investigation and Compilation of Fodder Crops in Amravati District ”

Submitted to Sant Gadge Baba Amravati University, Amravati. (MH)

As a partial fulfilment for The Degree of

**Master of Science in Botany**

In the faculty of Science

By

**Miss. Rutuja S. Gudadhe**  
M. Sc. II (Botany)

Under the Supervision of

**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
Shri Shivaji Science College, Amravati.

**Place of Work**

**Department of Botany**  
Shri Shivaji Science College Amravati  
2020 - 2021


**-: CERTIFICATE :-**

This is to certify that the work incorporated in the project entitled '**Investigation and Compilation of Fodder Crops in Amravati District**' submitted by Miss. **Rutuja S. Gudadhe** was carried out by the candidate himself under my supervision for the partial fulfilment of degree of Master of Science in Botany during academic year 2020 – 2021.

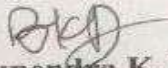
**Place: - Amravati**

**Date: -**

**Supervisor: -**

  
**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
Shri Shivaji Science College,  
Amravati.

**Forwarded by: -**

  
**Dr. Bhupendra K. Dorkar**  
Professor & Head  
Department of Botany  
Shri Shivaji Science College,  
Amravati.

## CONCLUSION

Based on our results we conclude that wild fodder species can be important source of protein, macro and micro elements to livestock. Some trees/shrubs are higher in nutrient content than that in the herbaceous species, and some of them are comparable to commercial feed . Productivity of livestock in general is chiefly determined by the availability of good quality nutritious fodder. Use of traditionally used or currently under-utilized fodder plants can help to cope with regional shortages of fodder crops. Our research documented 15 wild fodder species that had been identified through farmers' traditional knowledge and laboratory assessment. Analyses of locally wild fodder samples provide insights in the nutritional value of fodder species. These results could help to select fodder species with high nutrient contents to improve the diet of livestock and thereby boost livestock health and productivity. The findings will also definitely help nutritionist, ecologist and policy makers to understand , needs and to take appropriate measures for conservation of live stock as well as mitigation of human-mithun resource competition. Proposed integrated crop-livestock systems

**SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI  
MAHARASHTRA – 444603**

**A UGC Awarded College with Potential for Excellence NAAC  
Re-accredited “A” “Very Good” Grade**



**PROJECT REPORT**

**Seasonal Availability of Wild Edible Plants of Melghat Forest, Dist.  
Amravati, Maharashtra State, India.**

Submitted to Sant Gadge Baba Amravati University, Amravati as a  
partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

**By**

**Sayyed Yasmeen Ali**

**M.Sc. II (Botany)**

**Supervisor**

**Swati Pundkar**

Assistant Professor

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**Place of work**

**DEPARTMENT OF BOTANY  
SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI  
2019-2020**

## CERTIFICATE

This is to certify that Sayyed Yasmeeen Ali Department of Botany,  
ShriShivaji Science College, Amravati has completed his project  
report entitled

Seasonal Availability of Wild Edible Plants of Melghat Forest, Dist.  
Amravati, Maharashtra State, India.

submitted for award of the degree of Master of Botany during the year 2020-2021 under  
my guidance and this work has not formed on the basis for award of any degree,  
diploma, associated fellowship, or other title in this University or Institute of higher  
learning.

Place: Amravati

Date:

Roll no:

  
Swati Pundkar

Assistant Professor  
Dept. of Botany  
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Amravati

Forwarded by

  
Prof. B.K. Dorkar

Head, Department of Botany  
Shri Shivaji Science College, Amravati



**CONCLUSION**

The application of traditional knowledge by Korku tribe is very much restricted to their community and locality specific. Korku are very shy and conservative. Because of which it was very difficult to collect the information regarding uses of plants. Moreover, it is tedious as this Knowledge comes from their ancestors through experience and practice. The knowledge of plants is not easily transferred even to their son till elderly person confirms his attitude, interest and ability to serve the community. This service is never for monetization or for economic benefits but for the conservation of nature the present study shows that many non-agricultural plants species are used by Korku as them vegetables. Majority of them are leafy vegetables. These wild vegetables either handpicked or directly harvested from Fields. No trading practices observed during this study but people can borrow or donate excess amount of vegetable to their neighbours. This definitely adds social values to their living.

The present study illustrate survey of the wild ediable plant in melghat. The investigation was carry out in order to explore the existing wild edible plant in megahit during season of 2020-2021. The vegetation was arid to semiarid and dry deciduous. The present study deals with the documentation of the total number of shrubs, herb, tree, palm which are native of melghat. In this project I had include some examples of tree, herb, shrub and palm, there are total 5 climber, 15 tree, 11 herb, 5 shrub and 2 palm there are many more plants in melghat but the focus was on wild edible plant

SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI

MAHARASHTRA – 444603

A UGC Awarded College With Potential For Excellence NAAC  
Reaccredited “A” “Very Good” Grade

Project Report

PHYTOCHEMICAL AND ANTIBACTERIAL STUDY OF  
TEPHROSIA PURPUREA

Submitted to Sant Gadge Baba Amravati University, Amravati  
as a partial fulfillment for the Degree of  
MASTER OF SCIENCE IN BOTANY In the faculty of Science

By KU. SHRADDHA SURESHRAO PAWAR M.Sc. II (Botany)

Supervisor Dr. Tushar B. Wankhede Associate Professor  
Department Of Botany Shri. Shivaji Science College, Amravati

2020-2021

## CERTIFICATE

This is to certify that Miss. Shraddha Sureshrao Pawar . Department of Botany, Shri Shivaji Science College, Amravati has completed her project report entitled “ Phytochemical And Antibacterial Study of Canavalia Gladiata” submitted for award of the degree of Master of Botany

during the year 2020-2021 under my guidance and this work has not formed on the basis for award of any degree, diploma, associated fellowship, or other title in the this University or Institute of higher learning.

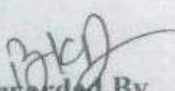
Place: Amravati

Roll No: 70046



**Dr. Tushar B. Wankhede**

Associate Professor  
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Amravati

  
Forwarded By  
**Prof. B. K. Dorkar**  
Head, Dept. of Botany  
Shri Shivaji Science College Amravati.

SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI , 2020-21

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### DISCUSSION AND CONCLUSION :-

Plants have been used in medicine throughout the world and still continue to occupy an important place in traditional as well as modern system of medicine. Modern synthetic medicines are effective in curing diseases but also cause a number of side effects leading to serious health problems.

It is quite obvious that TP consist a huge number of properties appear above be the most promising pharmacological effects and these studies are effective in pathogenesis of majority of diseases and will supports its beneficial effects in various complications like inflammation,

**SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI**  
**MAHARASHTRA - 444603**  
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**NAAC Reaccredited “A” “Very Good” Grade**



**PROJECT REPORT**

**Survey in Tree Plant Species of**  
**Arvi Taluka, Wardha District.**

Submitted to Sant Gadge Baba Amravati University, Amravati as a  
partial fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**  
In the faculty of Science

By

**Miss. Ishwari Yogiraj Bure**  
**M.Sc. II (Botany)**

Supervisor

**Dr. Swati V. Pundkar**

Assistant Professor  
Department Of Botany  
Shri. Shivaji Science College, Amravati

Place of work

DEPARTMENT OF BOTANY  
**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**  
**2020-2021**

## CHAPTER V

### DISCUSSION AND CONCLUSION

The Present study deals with the documentation of the total number of angiospermic trees, which are the native of different countries. Some of these plants have been brought here from different areas of the India ,While some of they are widely growing in this area. The study of revelent that the

presence of some important plants(Annonaceae, Rutaceae, Fabaceae Myrtaceae) are the most dominant Families out of the genera. wild also major food family, Next family is Annonaceae with 2 species, Rutaceae with 2 species, Fabaceae 3 species, Myrtaceae 3 species, Leguminosae with 2 species species each families and represented bye only one. There are 13 families of which only single species are there.

Present study revealed that, over .....plants belonging to more than 59 families were studied. Floristic vegetation is very much affected by local activities and their natural regeneration. Due to heavy cuttings, grazing influence of industrialization, over population, loss of potential habitat, climatic changes etc., have altered the vegetation pattern of the area. This has definitely affected flora adversely. We do not know the effects of the new introductions over native vegetation yet. The data presented in this work are original and first hand.

From the above observation, it can be conculted Myrtaceae Rutaceae Annonaceae is the dominant and leading family, species wise as well as genera wise,mosaceae, Fabaceae, Euphorbiaceae. Some of the rare trees in the Arvi Taluka area observed during the survey.

The study shows quite variation and diversity in the Angiospermic plant species.

I am very glad to contribute my present

study may help to create some valuable information or for documentation. Further addition to this floral study might be needed in future.

**“A SURVEY FOR THE CROP DISEASES FROM CHANDUR BAZAR  
REGION (M.S.)”**

**PROJECT REPORT**

SUBMITTED TO SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AS A  
PARTIAL FULFILMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN BOTANY

IN THE FACULTY OF SCIENCE

BY

**SHABNAM BHOLARAM DADHORE**

M.SC. II (BOTANY)

SUPERVISOR

**DR. GANESH B. HEDAWOO**

ASST. PROFESSOR

DEPARTMENT OF BOTANY

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

PLACE OF WORK



DEPARTMENT OF BOTANY

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

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2020-2021





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Grade**



**PROJECTREPORT**

**Isolation and characterization of Arbuscular  
Mycorrhizal (AM) Fungi from the rhizospheric soil of  
Adhatoda vasica**

Submitted to Sant Gadge Baba Amravati University ,Amravati as  
apartial fulfillment for the Degree of

**MASTER OF SCIENCEIN BOTANY**

In the faculty of Science

By

**Miss.Vaishnavi Rajendra**

**Bhond**

**M.Sc.II(Botany)**

**Supervisor**

**Dr. Rekha C. Maggirwar**

Assistant Professor

Department Of

Botany

Shri. Shivaji Science College ,Amravati

**Place of work**

**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2021-2022**

## CHAPTER V

### CONCLUSION

- ❖ *Adhatoda vasica* are used as traditional herbal medicines and are increasingly being used by people for primary health care system.
- ❖ Thus, the cultivation *Adhatoda vasica* should be increased to maintain a regular supply and to support their increasing demand by the use of Mycorrhizal fungi for sustainable plant productivity
- ❖ The rhizospheric soil fungal diversity including mycorrhizal fungi also beneficial for increasing the photosynthetic activity due to increased uptake of phosphorus *Adhatoda vasica* plants.
- ❖ The beneficial role of rhizosphere AM fungi (*Glomus* sp.) is to enhance the tolerance to various biotic and abiotic stresses, thereby increase the growth of plant.
- ❖ In improving the socio-economic and cultural status of native people for collection of *Adhatoda vasica* and their mycobionts like AM inoculum to increase the yield of *Adhatoda vasica* along with their secondary metabolites to utilize these natural resources on a sustainable basis as a traditional and herbal medicine for the human welfare

**“Ethnobotanical Survey of Medicinal Plants from  
Shendurjana Ghat Region (M.S.) ”**

**PROJECT REPORT**

**SUBMITTED TO SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AS A PARTIAL  
FULFILMENT FOR THE DEGREE OF**

**MASTER OF SCIENCE IN BOTANY IN THE FACULTY OF SCIENCE**

**BY**

**Mrunali Gajanan Gorde**

**M.SC.II (BOTANY)**

**SUPERVISOR**

**DR. GANESH B. HEDAWOO**

**ASST. PROFESSOR**

**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**PLACE OF WORK**



**DEPARTMENT OF BOTANY**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

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**2020-2021**

### **Conclusions**

The tribes of forest area of Shendurjana Ghat, Warud Tehsil, Amravati district use a number of medicinal plants. The following is the list of some important medicinal plants found in the shendurjana ghat satpura ranges along with their local name, family, distribution, part used and ethnomedical uses. The present study records 42 species of ethanol-medical plants representing 26 families.

However, the use of a particular plant depends on the plant's habits and users' needs. The most frequently used plant part in the preparations of herbal remedies were leaves, followed by fruits, roots, rhizomes and whole plants, seeds, flowers, bark, gum, latex, stems and bulbs have also been used. The use of specific plant parts of the treatment suggests that this part has the strongest medicine properties but it needs confirmation of biochemical analysis and pharmaceutical screening to cross check the local information.



## Project

### **Ethnobotanical Survey of Traditional Plants in Amravati District**

Submitted to

Sant Gadge Baba Amravati University, Amravati

as a partial

Fulfillment for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Miss. Supriya Olokar**

M.Sc. II (Botany)

Supervisor

**Dr. D. V. Hande**

Associate Professor

Department Of Botany

Shri Shivaji Science College, Amravati

2020-21

## CHAPTER - V

### CONCLUSION

Herbals have great potential to cure different kinds of skin diseases. More than 80% of people in India depend on traditional health care and use different plant based products for curing skin related problems. Compared with the conventional allopathic drugs, they have relatively low cost and can be of great benefit to the population of India in general and poor people in particular.

Herbals are a rich source of active ingredients and can be safer and cost effective treatment for skin diseases ranging from rashes to dreadful skin cancer. More than 50% of plant species useful for treatment of skin diseases appear to be restricted to forests, so activities such as deforestation, habitat destruction, urbanization etc., may pose a serious threat to these Species. Conservation of these plants with the help of local participation and carrying out of extensive research in this respect to broaden the prospects of herbal drugs in Inflammation is a complex process, essential for the host defence system. uatory mediators may lead to chronic diseases,

Inflammation is a complex process, essential for the host defence system. Excessive production of some inflammatory mediators may lead to chronic diseases. Plant raw materials can have an anti-inflammatory action affecting various stages of the process of inflammation. They inhibit formation of cytokines and eicosanoids, prevent the inflammatory reaction cascade from starting, and diminish skin flare, itching or excessive exfoliation. The use of most of the presented herbal medicines in treatment of inflammatory skin diseases is based on clinical and pharmacological trials in vitro and experiments in vivo. But the use of some of them is based solely on their longstanding traditional use in folk medicine.

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**AC Reaccredited“A”“VeryGood”Grade**



**PROJECTREPORT**

**Soil Quality ,Crop Selection And Crop Rotation.**

SubmittedtoSantGadgeBabaAmravatiUniversity,Amravatiasapartialf  
ulfillmentforthe Degreeof

**MASTER OF SCIENCE IN BOTANY**  
In the faculty of Science

By  
**Miss.Vaishnavi Arunrao Banokar**  
M.Sc.II(Botany)

**Supervisor**

**Dr.Dinesh D. Khedkar**

AssociateProfessorDe  
partmentOfBotany  
Shri.ShivajiScienceCollege,Amravati

**Place ofwork**

DEPARTMENT OF BOTANY  
**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**  
**2020-2021**

SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI Maharashtra– 444603

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Excellence NAAC Reaccredited “A” “Very Good” Grade



PROJECTREPORT

**Moleular Phylogeny of Some Members of Family fabaceae Using  
rbcL and matK Gene Sequences**

Submitted to Sant Gadge Baba Amravati University ,Amravati as a partial fulfillment  
for the Degree of

**MASTER OF SCIENCE IN BOTANY**

In the faculty of Science

By

**Mr. Vishal arjun mitkari**

**M.Sc.II(Botany)**

**Supervisor**

**Prof. Avinash Darsimbe**

Assistant Professor

Department Of

Botany

Shri. Shivaji Science College ,Amravati

Place of work

DEPARTMENT OF BOTANY

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2021-2022

**Moleular Phylogeny of Some Members of Family  
fabaceae Using rbcL and matK Gene Sequences**



## CHAPTER-V

### CONCLUSION

The present investigation shows that the *rbcL* gene and *matK* gene are the two structural genes which are prominently used for phylogenetic analyses as they show a clear and well distinguished categorization of different genera of family fabaceae. This fact clear during study when the sequence data of *rbcL* and *matK* gene subjected to Clustal-W for phylogenetic analyses.

In both the phylogenetic tree of *rbcL* and *matK* gene of different taxa of family Asteraceae, only one taxa was found in cluster-II while all other are found in same cluster, cluster-I.

These results shows that the analyses of the chloroplast *rbcL* and *matK* gene was a useful approach for inferring phylogenetic relationship especially at the superageneric level.

**Bachelor of Computer Application (BCA)**

List of Students under taking Project Work

<b>Class: BCA TY</b>	
<b>S.no</b>	<b>Name of students</b>
1	Aarati Gajanan Gawande
2	Aarti Nandkishor Kalpande
3	Aatmaj Bharat Tayade
4	Abhijit Gajanan Kawale
5	Abhishek Manohar Nishandar
6	Aditi Ajayrao Solanke
7	Aditi Kishor Nathe
8	Aditya Sanjay Shingane
9	Aditya Satyawar Dongare
10	Aishwarya Dnyaneshwarrao Deshmukh
11	Ajay Dilip Rewatkar
12	Ajinkya Pratap Raut
13	Akanksha Prakash Daffar
14	Akanksha Satish Chaudhary
15	Akash Ravidas Agarwal
16	Akash Satish Dhote
17	Akshay Nirgunrao Mahore
18	Akshay Ramesh Wankhade
19	Ambish Bharatbhushan Ramteke
20	Amruta Sudhakar Bale
21	Anand Uttamrao Lande

22	Aniket Santosh Bhande
23	Aniket Sunil Pawar
24	Anjali Manoj Pandey
25	Ankit Anil Salunke
26	Anup Santosh Kankale
27	Arpit Sanjay Gupta
28	Ashish Satishrao Khadase
29	Avantika Ashokrao Varhokar
30	Avinash Panditrao Thakre
31	Avinash Shivaji Lohe
32	Bhagyashri Ashok Jadhao
33	Bhavesh Vishnuji Neet
34	Chandrakant Nareshkumar Fafat
35	Chetna Pramod Wankhede
36	Deepa Deepak Murai
37	Dhiraj Gajananrao Jaysingpure
38	Dhiraj Vinod Fale
39	Dipali Vinodrao Dharmale
40	Akanksha Subhash Ganjiwale
41	Ganraj Gorakhnath Mane
42	Gauri Prakash Alone
43	Harshal Ghanshyam Sawai
44	Harshal Subhashrao Gawande
45	Himalay Vinod Levharkar
46	Hrushikesh Subhashrao Vidhate
47	Hrushikesh Suresh Kapse
48	Janhavi Kishor Dighade
49	Kajal Rajeshwarrao Bihade

50	Kartik Pramodrao Bakhade
51	Komal Onkarrao Raut
52	Krushikesh Sanjayrao Raut
53	Harsha Sunilsingh Tehare
54	Parigha Santosh Warhekar
55	Rasika Gajanan Nawale
56	Malhar Rajendra Bonde
57	Mayur Ganesh Isokar
58	Mayuri Raju Behare
59	Mohini Manohar Ingole
60	Mrunali Sanjay Jadhav
61	Nakul Sudhir Daware
62	Namrata Govardhan Jayale
63	Nayan Niwruttipant Ghulaxe
64	Nida Ashfaque Sayyed
65	Nikhil Kishorrao Lokhande
66	Nikhil Narayan Mangal
67	Nikita Bhashkar Vaidya
68	Nikita Gajanan Chindhe
69	Nilam Sureshrao Madankar
70	Niraj Sanjay Mirase
71	Nishant Tulshiramsingh Desai
72	Pallavi Rameshrao Sakharkar
73	Pallavi Suresh Akotkar
74	Parag Dadarao Deshmukh
75	Pawan Gokulrao Gharad
76	Praful Manohar Rokade
77	Prajakta Rajendra Sakhare

78	Prajakta Sudhir Malode
79	Prajwal Namdevrao Ughade
80	Prajwal Rajendra Bonde
81	Pranay Anilrao Changole
82	Pranit Bhagwan Kakan
83	Pratik Prashant Kukade
84	Prerna Ramdas Nagrale
85	Punam Mahadevrao Bhagat
86	Purva Sanjay Girulkar
87	Rajeshwari Rajendra Bhagvatkar
88	Ram Anil Gore
89	Rasika Girish Patil
90	Ravina Ramaji Gulhane
91	Riddhi Sanjaypant Ganorkar
92	Rishabh Manoj Gawai
93	Ritik Rajesh Sharma
94	Rushabh Rajesh Rai
95	Rushikesh Ashok Chawat
96	Rushikesh Kailasrao Ghurde
97	Rutik Sahebrao Gahukar
98	Rutuja Sanjay Lavhale
99	Rutwik Sanjay Narnaware
100	Safi Altamash Khan
101	Sagar Babarao Sukhdeve
102	Sagar Sanjayrao Gandhe
103	Sahil Rupchand Ghore
104	Sahil Virendra Tikait
105	Saima Kokib Abdul Abdul

106	Sakshi Avinash Wankhade
107	Sakshi Devidasrao Mehare
108	Sakshi Divakarrao Dhomane
109	Sakshi Rajesh Chaudhari
110	Sameer Arunrao Vidhate
111	Sanket Digambar Kale
112	Sanvidh Milind Kukade
113	Saurabh Nanasahab Raut
114	Saurabh Narendra Tayade
115	Saurabh Pradip Sapkal
116	Sham Sunil Thokal
117	Shivam Minkeshwar Chaudhari
118	Shivam Narendra Gaikwad
119	Shivani Baburao Ghom
120	Shraddha Namdeorao Kherde
121	Shraddha Sudhir Kale
122	Shreya Gajanan Khandalkar
123	Shruti Vijaysingh Durgbuns
124	Suraj Vishwasrao Sambhe
125	Tejal Sangita Raut
126	Tejas Vilasrao Umak
127	Tejaswini Dilip Kukade
128	Vaibhav Nandkishor Dabhade
129	Vaibhav Prabhakar Shende
130	Vaishnavi Deepak Mahalle
131	Vaishnavi Gajananrao Rekhate
132	Vinay Dilip Lende
133	Vishakha Kiran Tidke

134	Vishal Govardhan Wankhade
135	Vishal Rameshwar Pande
136	Vivek Kirit Roy
137	Yash Satish Sharma
138	Yashashri Baburao Gawande
139	Yashjeet Pankaj Rawale
140	Yuvraj Pramod Borkhade

**Head,  
Dept. of Computer Science**

Head  
Dept. of Computer Science  
Shri Shivaji Science College,  
Amravati.

Title and place of the work

Project Titles Allotment		
Class: BCA TY		
S.no	Name of students	Project Title
1	Aarati Gajanan Gawande	Detecting fake news with python
2	Aarti Nandkishor Kalpande	
3	Aatmaj Bharat Tayade	
4	Abhijit Gajanan Kawale	
5	Abhishek Manohar Nishandar	
6	Aditi Ajayrao Solanke	
7	Aditi Kishor Nathe	
8	Aditya Sanjay Shingane	Chat Box
9	Aditya Satyawar Dongare	
10	Aishwarya Dnyaneshwarrao Deshmukh	
11	Ajay Dilip Rewatkar	
12	Ajinkya Pratap Raut	
13	Akanksha Prakash Daffar	
14	Akanksha Satish Chaudhary	
15	Akash Ravidas Agarwal	Online tour and travels services
16	Akash Satish Dhote	
17	Akshay Nirgunrao Mahore	
18	Akshay Ramesh Wankhade	
19	Ambish Bharatbhushan Ramteke	
20	Amruta Sudhakar Bale	
21	Anand Uttamrao Lande	




22	Aniket Santosh Bhande	File sharing in cloud computing
23	Aniket Sunil Pawar	
24	Anjali Manoj Pandey	
25	Ankit Anil Salunke	
26	Anup Santosh Kankale	
27	Arpit Sanjay Gupta	
28	Ashish Satishrao Khadase	
29	Avantika Ashokrao Varhokar	Concurrent access transaction system
30	Avinash Panditrao Thakre	
31	Avinash Shivaji Lohe	
32	Bhagyashri Ashok Jadhao	
33	Bhavesv Vishnuji Neet	
34	Chandrakant Nareshkumar Fafat	
35	Chetna Pramod Wankhede	
36	Deepa Deepak Murali	Blood Bank Management System
37	Dhiraj Gajananrao Jaysingpure	
38	Dhiraj Vinod Fale	
39	Dipali Vinodrao Dharmale	
40	Akanksha Subhash Ganjiwale	
41	Ganraj Gorakhnath Mane	
42	Gauri Prakash Alone	
43	Harshal Ghanshyam Sawai	Art gallery
44	Harshal Subhashrao Gawande	
45	Himalay Vinod Levharkar	
46	Hrushikesh Subhashrao Vidhate	
47	Hrushikesh Suresh Kapse	
48	Janhavi Kishor Dighade	
49	Kajal Rajeshwarrao Bihade	

50	Kartik Pramodrao Bakhade	Hotel Management System
51	Komal Onkarrao Raut	
52	Krushikesh Sanjayrao Raut	
53	Harsha Sunilsingh Tehare	
54	Parigha Santosh Warhekar	
55	Rasika Gajanan Nawale	
56	Malhar Rajendra Bonde	
57	Mayur Ganesh Isokar	University Form Filling Application
58	Mayuri Raju Behare	
59	Mohini Manohar Ingole	
60	Mrunali Sanjay Jadhav	
61	Nakul Sudhir Daware	
62	Namrata Govardhan Jayale	
63	Nayan Niwruddipant Ghulaxe	
64	Nida Ashfaque Sayyed	Canteen Management System
65	Nikhil Kishorrao Lokhande	
66	Nikhil Narayan Mangal	
67	Nikita Bhashkar Vaidya	
68	Nikita Gajanan Chindhe	
69	Nilam Sureshrao Madankar	
70	Niraj Sanjay Mirase	
71	Nishant Tulshiramsingh Desai	Fitness Center Management
72	Pallavi Rameshrao Sakharkar	
73	Pallavi Suresh Akotkar	
74	Parag Dadarao Deshmukh	
75	Pawan Gokulrao Gharad	
76	Praful Manohar Rokade	
77	Prajakta Rajendra Sakhare	

78	Prajakta Sudhir Malode	Online Reseller System
79	Prajwal Namdevrao Ughade	
80	Prajwal Rajendra Bonde	
81	Pranay Anilrao Changole	
82	Pranit Bhagwan Kakan	
83	Pratik Prashant Kukade	
84	Prerna Ramdas Nagrale	Online Bakery Shopee
85	Punam Mahadevrao Bhagat	
86	Purva Sanjay Girulkar	
87	Rajeshwari Rajendra Bhagvatkar	
88	Ram Anil Gore	
89	Rasika Girish Patil	
90	Ravina Ramaji Gulhane	Bus Ticketing
91	Riddhi Sanjaypant Ganorkar	
92	Rishabh Manoj Gawai	
93	Ritik Rajesh Sharma	
94	Rushabh Rajesh Rai	
95	Rushikesh Ashok Chawat	
96	Rushikesh Kailasrao Ghurde	E-ticketing
97	Rutik Sahebrao Gahukar	
98	Rutuja Sanjay Lavhale	
99	Rutwik Sanjay Narnaware	
100	Safi Altamash Khan	
101	Sagar Babarao Sukhdeve	
102	Sagar Sanjayrao Gandhe	E-ticketing
103	Sahil Rupchand Ghore	
104	Sahil Virendra Tikait	
105	Saima Kokib Abdul Abdul	

106	Sakshi Avinash Wankhade	Student Record For College
107	Sakshi Devidasrao Mehare	
108	Sakshi Divakarrao Dhomane	
109	Sakshi Rajesh Chaudhari	
110	Sameer Arunrao Vidhate	
111	Sanket Digambar Kale	
112	Sanvidh Milind Kukade	Patient Health Record
113	Saurabh Nanasaheb Raut	
114	Saurabh Narendra Tayade	
115	Saurabh Pradip Sapkal	
116	Sham Sunil Thokal	
117	Shivam Minkeshwar Chaudhari	
118	Shivam Narendra Gaikwad	Training and Placement
119	Shivani Baburao Ghom	
120	Shraddha Namdeorao Kherde	
121	Shraddha Sudhir Kale	
122	Shreya Gajanan Khandalkar	
123	Shruti Vijaysingh Durgbuns	
124	Suraj Vishwasrao Sambhe	Fake Product Review Analysis
125	Tejal Sangita Raut	
126	Tejas Vilasrao Umak	
127	Tejaswini Dilip Kukade	
128	Vaibhav Nandkishor Dabhade	
129	Vaibhav Prabhakar Shende	
130	Vaishnavi Deepak Mahalle	Fake Product Review Analysis
131	Vaishnavi Gajananrao Rekhate	
132	Vinay Dilip Lende	
133	Vishakha Kiran Tidke	

134	Vishal Govardhan Wankhade	Smart Health
135	Vishal Rameshwar Pande	
136	Vivek Kirit Roy	
137	Yash Satish Sharma	
138	Yashashri Baburao Gawande	
139	Yashjeet Pankaj Rawale	
140	Yuvraj Pramod Borkhade	

  
**Head,**  
**Dept. of Computer Science**  
Head  
 Dept. of Computer Science  
 Shri Shivaji Science College,  
 Amravati.

**Department of Forensic Sciences**

## List of Students under taking Internship

S. No.	Name of the Student
01	Ms. <u>Gaurangi k. Madane</u>
02	Ms. <u>Vedanti S. Chawande</u>
03	Ms. <u>Nilmani M. Giri</u>
04	Mr. <u>Sahil R. Gupta</u>
05	Ms. <u>Namrata P. Wankhade</u>
06	Mr. <u>Prathmesh A. Kogade</u>
07	Mr. <u>Akash B. Augad</u>
08	Ms. <u>Tejaswini V. Pundkar</u>
09	Ms. <u>Vaibhavi R. Shende</u>
10	Ms. <u>Suvidha V. Nage</u>
11	Mr. <u>Shivam S. Salunke</u>
12	Ms. <u>Purva A. Wankhade</u>
13	Ms. <u>Unnati B. Dhakade</u>
14	Ms. <u>Nandani D. Jadhav</u>
15	Ms. <u>Rutuja P. Meheshre</u>
16	Ms. <u>Samruddhi D. Nawalkar</u>
17	Ms. <u>Gayatri J. More</u>
18	Ms. <u>Ishwari P. Wankhade</u>
19	Mr. <u>Harish S. Chouthmal</u>
20	Ms. <u>Muskan R. Gupta</u>
21	Ms. <u>Payal S. Borwar</u>
22	Ms. <u>Kirti A. Solanke</u>
23	Ms. <u>Kshitija S. Chimote</u>

24	Mr. <u>Ayush Bopche</u>
25	Ms. Rutuja R. <u>Junghare</u>
26	Ms. Aishwarya B. <u>Wahane</u>
27	Mr. Tushar S. Pawar
28	Ms. Arpita D. Gadge
29	Ms. Vishakha V. <u>Ambhore</u>
30	Mr. Himanshu A. Tagare
31	Ms. Amisha <u>Bangde</u>
32	Mr. Palash R. Raut

Certificates of Internship









































































**Department of Chemistry**

List of Students under taking Project Work

<b>Sr. No.</b>	<b>Name</b>
1	Aachal Sawwalakhe
2	Adesh Navghare
3	Akshay Dahe
4	Amol Rokade
5	Chetan Soye
6	Dipti Gaurkhede
7	Gayatri Harne
8	Janhavi Malode
9	Kajal Isad
10	Kuldeep Ingle
11	Neeraj Dwivedi
12	Neel Patil
13	Prajakta Badarkhe
14	Prajakta Gaikwad
15	Priyanka Sawalkar
16	Radhika Jakhotiya
17	Rameshwari Nimbhorkar
18	Sakshi Gawande
19	Shamli Shelke
20	Shivani Pandey
21	Shweta Saurkar
22	Vaishnavi Asare
23	Vaishnavi Wankhade
24	Yogesh Hekade
25	Zaid Ali



Title and Place of Work

**“Study Water quality of  
Amravati Municipal Region.”**

Submitted by partial fulfillment of

Degree of

Master of Science In  
Chemistry

Sant Gadge Baba Amravati University, Amravati.

By

Miss. Aachal Tulsidas Sawwalakhe.

Under Guidance of

Dr. N.A Kalambe  
M.Sc., B.Ed., M. Phill., Ph.D.

P. G. Department of Chemistry

Shri Shivaji Science College, Amravati

2020-2021

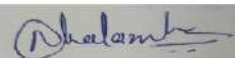
Project Work Completion

**Certificate**

Certified that the work incorporated in this thesis entitled “**Study Water quality of Amravati Municipal Region**” by Miss. Aachal Tulsidas Sawwalakhewas carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.

Place: Amravati

Date-26/8/2021



**Dr. N. A. Kalambe**  
Department of Chemistry  
Shri Shivaji Science College, Amravati

# **"Synthesis and characterization of Strontium Oxide, by Sol-Gel Method"**

## **DISSERTATION**

**Presented For the fulfillment of award of degree of  
MASTER OF SCIENCE  
IN  
CHEMISTRY**

**Submitted to  
Sant Gadge Baba Amravati University,  
Amravati**

**By  
Mr. Aadesh Rameshwar Navghare**

**Supervisor  
Dr. P. R. Padole  
Professor  
Department of Chemistry  
Shri Shivaji Science College, Amravati  
2020-2021**

## CERTIFICATE

This is to certify that this dissertation entitled "Synthesis, and Characterization of Strontium Oxide by Sol-Gel Method" is a bonafide project work carried out by Mr. Aadesh Rameshwar Navghare student of M.Sc. (Chemistry) under my supervision in Post Graduate Department of Chemistry, Shri Shivaji Science College, Amravati, during the academic year 2020-2021 for partial fulfillment of the requirement for the award of degree of M.Sc. and this dissertation has not form the basis for the award of any diploma, associate ship, fellowship or other similar title.



**Dr. P. R. Padole**

**Professor**

**Department of Chemistry**

**Shri Shivaji Science College, Amravati**

## Conclusion

Nanocrystalline SrO was synthesized by sol gel citrate method. The structural investigation of nanocrystalline SrO was carried out by XRD and FT-IR techniques. FT-IR confirmed the formation of SrO. Its crystallite size was calculated with the help of XRD by using Scherer equation. This was found to be 42 nm.

**Viscometric Study of Substituted Aldehyde in  
Binary Solvent**

**DESSERTATION**

**SUBMITTED TO**

**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

**FOR THE DEGREE OF**

**MASTER OF SCIENCE**

**IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE**

**BY**

**Mr. Akshay M. Dahe**

**SUPERVISER**

**Dr. Archana S. Burghate**

**M.Sc., M.Phil., Ph.D**

**P.G. Department of Chemistry Shri Shivaji Science College,  
Amravati.**

**Department of Chemistry,**

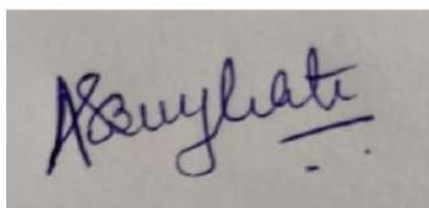
**Shri Shivaji Science College, Amravati**

**MAY-2020**

## CERTIFICATE

This is to certify that the work incorporated in this project

Work is the bonafide work done by **Mr. Akshay M. Dahe** under my supervision in P.G. Department of Chemistry, Shri Shivaji Science College, Amravati.

A photograph of a handwritten signature in blue ink on a light-colored surface. The signature is written in a cursive style and appears to read 'A. S. Burghate'.

**Dr. A. S. Burghate**

Professor Department of Chemistry,

Shri Shivaji Science College,

Amravati

**“SYNTHESIS AND CHARACTERIZATION OF  
NANOCRYSTALLINE CADMIUM OXIDE BY SOL GEL  
TECHNIQUE”**

**DISSERTATION**

**SUBMITTED  
TO**

**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

**FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE**

**By**

**Mr. Amol S. Rokade**

**SUPERVISOR**

**Dr. A.B. Bodade**

**Associate Professor  
Department of Chemistry,  
Shri Shivaji Science College  
Amravati**

**Department of Chemistry,  
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JULY—2021**



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### CERTIFICATE

This is certify that the work incorporated in this dissertation entitled  
**“SYNTHESIS AND CHARACTERIZATION OF  
NANOCRYSTALLIN CADMIUM OXIDE BY SOL GEL  
TECHNIQUE”** submitted by **Mr. Amol s. Rokade** was carried out by his  
under my supervision at Nanotechnology Research Laboratory, Department  
of Chemistry, Shri Shivaji Science College, Amravati. To the best of my  
knowledge the matter embodied in the dissertation has not been submitted to  
any University/Institute.

**Date:**  
**Place: Amravati**

**Dr. A . B. Bodade**  
**Project Supervisor**

## CHAPTER-6

### **CONCLUSION :-**

The synthesis of cadmium oxide nanoparticles was carried out by sol gel technique. The synthesized nanoparticles are confirmed by colour changes and it has been characterized by XRD, FTIR and UV. Its size was confirmed by X-ray diffraction study and was found to be 31 nm. The bonding was confirmed from FTIR study as it has shown different peaks confirming the presence of cadmium oxide and presence of oxide. There are many advantages offered by the sol-gel process. It uses relatively low temperatures. It can create very fine powders. It produces compositions not possible by solid-state fusion. This process consumes less energy and also an eco-friendly process. The Sol-Gel process uses less precursor for preparing the solution. Also it is high purity and controlled synthesis process..

# **"Synthesis and characterization of Ferric Oxide, by Sol-Gel Method"**

## **DISSERTATION**

**Presented For the fulfillment of award of degree**

**MASTER OF  
SCIENCE IN  
CHEMISTRY**

**Submitted to**

**Sant Gadge Baba Amravati University,  
Amravati**

**By**

**Mr. Chetan Vidyadhar Soye**

**Supervisor**

**Dr. H. G. Wankhade**

**Assistant Professor  
Department of Chemistry  
Shri Shivaji Science College, Amravati  
2020-2021**

## CERTIFICATE

This is to certify that this dissertation entitled "**Synthesis, and Characterization of Ferric Oxide by Sol-Gel Method**" is a bonafide project work carried out by Mr. Chetan Vidyadhar Soye student of M.Sc. (Chemistry) under my supervision in Post Graduate Department of Chemistry, Shri Shivaji Science College, Amravati, during the academic year 2020-2021 for partial fulfillment of the requirement for the award of degree of M.Sc. and this dissertation has not form the basis for the award of any diploma, associateship, fellowship or other similar title.



**Dr. H. G. Wankhade**  
Assistant Professor  
Department of Chemistry  
Shri Shivaji Science College,  
Amravati

## Chapter V

### Conclusion

Nanocrystalline  $\text{Fe}_2\text{O}_3$  was synthesized by sol gel citrate method. The structural investigation of nanocrystalline  $\text{Fe}_2\text{O}_3$  was carried out by XRD and FT-IR techniques. FT-IR confirmed the formation of  $\text{Fe}_2\text{O}_3$ . Its crystallite size was calculated with the help of XRD by using Scherer equation. This was found to be 48 nm.

“Study of Physicochemical Parameters of Water A – Review”

Submitted by Partial Fulfilment of

Degree of

Master of Science

In

Chemistry

Sant Gadge Baba Amravati University, Amravati.

By

Ms. Dipti Diliprao Gaurkhede.

Under Guidance of

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Asstt. Professor

Department of Chemistry

P.G. Department of Chemistry


Shri Shivaji Science College, Amravati 2020-2021

## CERTIFICATE

Certified that the work incorporated in this thesis entitled “Study of Physicochemical Parameters of Water”- A Review. By Ms. Dipti Diliprao Gaurkhede was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.

Place: Amravati

Date: 26 /08/2021



Dr. N. R. Thakare  
Professor  
Dept. of Chemistry  
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Amravati

Dr. N. R. Thakare

Asst. Professor

Department of chemistry,

Shri Shivaji Science College, Amravati.

### **Conclusion**

The Present Work deals with the Review Study of “Physicochemical Parameters of Water”.

This Review is helpful for the uses and the community to know the water quality in their area and act accordingly. By applying economical purification method bore well water or open well water can be use for domestic and drinking purposes.



**PROJECT WORK**

**ON**

**“SYNTHESIS OF SUBSTITUTED  
PYRIMIDINE”**

**(Synthesis of 4-p-chloro phenyl-2-hydroxy-6-  
-phenyl pyrimidine and 4-p-chloro phenyl-2-  
thiol-6-phenyl pyrimidine)**

*Submitted for partial fulfillment of  
Degree of Master of Science in Chemistry,  
Sant Gadge Baba Amravati University, Amravati*

**By**

**Gayatri G. Harne**

**M. Sc. II**

**Under the Guidance of**

**Dr. Kishore N. Puri**

**M.Sc., Ph. D**

**P. G. DEPARTMENT OF CHEMISTRY SHRI  
SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**CERTIFICATE**

*This is to certify that Gayatri G. Harne is a bonafied student of M.sc (Chemistry) course conducted by Shri Shivaji Science College, Amravati during the academic year of 2020- 2021. She has completed this dissertation entitled “Synthesis of substituted pyrimidine” Under the supervision of Dr. Kishore Puri. This work is submitted in the partial fulfillment of the requirements for the degree of Master Of Science in Chemistry Of Sant Gadge Baba Amravati University. This work is certified for presentation before the board of examiners.*

*K N Puri*

**Dr. K. N. Puri**  
Associate Professor,  
Department of Chemistry,

Shri Shivaji Science College, Amravati

**“Study of Micronutrient Status of Soil in India-  
A Review”**

Submitted by partial fulfilment of

Degree of

Master of Science

In

Chemistry

Sant Gadge Baba Amravati University, Amravati.

By

**Ms. Janhvi Bhaurao Malode.**

Under Guidance of


Dr. N. R. Thakare (M.Sc. Ph.D.)

P. G. Department of Chemistry

Shri Shivaji Science College, Amravati 2020-2021

## Certificate

Certified that the work incorporated in this thesis entitled “**Study of Micronutrient Status of Soil in India-A Review**” by Ms. Janhvi Bhaurao Malode was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.



Dr. N. R. Thakare  
Professor  
Dept. of Chemistry  
Shri Shivaji Science College,  
Amravati.

Place: Amravati  
Date: / 09 / 2021

Dr. N. R. Thakare  
Professor  
department of chemistry

### **Conclusion**

This review would help farmers to maintain the soil health of their field by providing proper fertilizers in correct amount and percentage. It can also be helpful for nurturing their farm soil and to maintain the fertility of soil. The recorded data given in this review is based on the studies carried out by scientist and their co-workers.

This review will be definitely beneficial to the farmers of this region to obtain the crop yield in the recorded amount. This review also helpful to improve the economical condition of the farmers of this region and the Maharashtra state.

**“SYNTHESIS AND CHARACTERIZATION OF  
NANOCRYSTALLINE NICKEL OXIDE BY SOL GEL  
TECHNIQUE”**

**DISSERTATION**

**SUBMITTED  
TO**

**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

**FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE**

**By**

**Ms. Kajal Prabhuji Isad**

**SUPEVISOR**

**Dr. G. N. Chaudhari  
Associate Professor  
Department of Chemistry,  
Shri Shivaji Science College  
Amravati**

**Department of Chemistry,  
Shri Shivaji Science College, Amravati  
July-2021**

**Dr.G.N.Chaudhari**  
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**Email:gnchaudhari@gmail.com**



### **CERTIFICATE**

This is certify that the work incorporated in this dissertation entitled “**SYNTHESIS AND CHARACTERIZATION OF NANOCRYSTALLINE NICKEL OXIDE BY SOL GEL TECHNIQUE**” submitted by **Ms. Kajal Prabhuji Isad** was carried out by her under my supervision at Nanotechnology Research Laboratory, Department of Chemistry, Shri Shivaji Science College, Amravati. To the best of my knowledge the matter embodied in the dissertation has not been submitted to any University/Institute.

**Date:**  
**Place: Amravati**

**Dr. G. N. Chaudhary**  
**Project Supervisor**

**CONCLUSION:-**

NiO nanocrystals were successfully synthesized by a sol-gel method at low temperature, using nickel nitrate, Citric acid, Ethanol. The nanoparticles are confirmed by colour changes and it has been characterized by XRD, FTIR, UV. Its size was confirmed by X-ray diffraction study and was found to be approx. 37.5nm. The bonding was confirmed from FTIR study as it has shown different peaks confirming the presence of NiO.



"STUDY ON REVIEW OF ANTI-PSYCHOTIC  
DRUGS AND THEIR SYNTHETIC ROUTES".

Submitted by  
partial fulfillment of Degree of  
Master of Science In Chemistry  
Sant Gadge Baba Amravati University, Amravati.

By  
Mr. Kuldeep Ingle.

Under Guidance of  
Dr. S.K.Rithe

Assistant Professor,  
P. G. Department of Chemistry  
Shri Shivaji Science College, Amravati  
2020-2021

## Certificate

Certified that the work incorporated in this thesis entitled " STUDY ON REVIEVE OF ANTI-PSYCATIC DRUGS AND THEIR SYNTHETIC ROUTS ". by Mr.Kuldeep Ingle was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.

**Place:Amravati**

**Date- 26/8/2021**



**Dr. S.K.Rithe**  
**Department of Chemistry**  
**Shri Shivaji Science**  
**College,Amravati**

**SOLVENT FREE SYNTHESIS OF 3-ACETYL COUMARIN  
DERIVATIVES BY KNOEVENAGEL CYCLIZATION,  
CHARACTERIZATION AND BIOLOGICAL STUDIES**

**A Research Project is submitted to the  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

**SUBMITTED IN THE PARTIAL FULFILLMENT OF THE DEGREE  
OF MASTER OF SCIENCE IN CHEMISTRY**

**[FACULTY OF SCIENCE AND TECHNOLOGY]**

Submitted by  
**Mr. Neeraj Umesh Dwivedi**  
M.Sc-II (IV-Sem)

Under the Guidance of  
**Prof. Gajanan M. Dongare**  
M.Sc., B.Ed., SET  
(Associate Professor in Chemistry)



**DEPARTMENT OF CHEMISTRY  
SHRI SHIVAJI SCIENCE COLLEGE,  
AMRAVAT-444602**

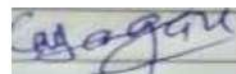
August-2021

## CERTIFICATE

This is to certify that the project work on Schiff base derived from "Solvent free Synthesis of 3-acetyl Coumarin Derivatives by Knoevenagel cyclization, Characterization and Biological Studies" (M. Sc., II-Chemistry-IV Sem) as a partial fulfillment of M.Sc. Chemistry has been carried out satisfactory by him/her at Department of Chemistry, Shri Shivaji Science College, Amravati, under my Guidance.

**Place:** Amravati

**Date:** 04-08-2021



**Prof.  
G.M.Dongare**

Associate Professor in Chemistry  
Shri Shivaji Science College, Amravati

**Conclusion**

The coumarin 3-acetyl-6-2H-chromen and their derivatives coumarin 3-acetyl-2H-chromen-2-one, 6-bromo-2H-chromen-2-one, 5-nitro-2H-chromen-2-one were synthesized successfully by using the reported methods and protocols and are confirmed by spectral analysis of <sup>1</sup>H NMR and infra-Red techniques. The synthesized derivatives were further proceeds for the biological studies against the bacteria viz S.typhi, E.Coli, B.substillis, S.aureus. among all the synthesized coumarins ACO, ACB, CAN shows good activity against S.typhi, E.Coli, B.substillis, S.aureus bacterias respectively. remarkably and S.typhi bacterium shows better activity against the all prepared coumarin derivatives.

**PROJECT REPORT**

On

**“Study physiochemical property and antimicrobial activity of dihydropyridinone derivatives and it's synthesis ”**

**Submitted for partial fulfilment of Degree of**

**Master of Science**

**In**

**Chemistry**

**SantGadge Baba Amravati University,**

**Amravati.**

By

**Mrs. Nilesh K. Patil**

Under guidance of

**Dr.Yogita S. Thakare**

**(M. Sc., Ph.D, NET, SET)**

**P.G. DEPARTMENT OF CHEISTRY,**

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**2020-21**



### Certificate

This is certify that this dissertation “**Study physiochemical property and antimicrobial activity of dihydropyridinone derivatives and it's synthesis** ” is a bonafide project work carried out by Mrs. Nilesh K. Patil student of M.Sc. (Chemistry) under my supervision in Post Graduate Department of Chemistry. Shri Shivaji Science College, Amravati during the academic year 2020-2021 in partial fulfilment of the requirement for the award of degree of M.Sc. and that dissertation has not form the basis for the award of any diploma, associate ship, fellowship or other similar title.

Date : 26-8-2021

Place : Amravati

Dr.Yogita S. Thakare

Department of Chemistry

ShriShivaji Science College,  
Amravati.

## Chapter-6

### Summary and Conclusion

Viscosity is the measure of the level of resistance to flow of a liquid. It is the stickiness and thickness of a liquid. To determine viscosity of a liquid you need to consider the time that it takes to flow through a viscometer tube. The viscometer tube is the instrument used for measuring viscosity while a thermometer measures temperature. The most common type design of gravity viscometer is the U-type and best known as Ostwald viscometer.

In the present study, the relative viscosity of solution of dihydropyrimidine derivatives decreases with decrease in concentration of solution. The data of relative viscosity, specific viscosity and concentration were used to construct the graph between  $\eta_r - 1/\sqrt{C}$  Vs  $\sqrt{C} \times 10^{-3}$ . 'A' which is the measure of solute-solute interaction and 'B' is the measure of solute-solvent interaction has been calculated.

All surface molecules in liquids are under pull or tensions and this is known as surface tension. To determine the surface tension of a liquid you consider the no. of drops in a stalagmometer. A stalagmometer is the instrument used for measuring the surface tension.

From the surface tension study it is found that the value of surface tension increases with decreasing concentration of ligands in all solvent systems. As the concentration decreases the value of surface tension increases. The data of surface tension and concentration were used to construct the graph between concentration 'C' versus surface tension  $\gamma$ .

The conductance of one centimeter cube ( $1 \text{ cm}^3$ ) or one cubic meter ( $1 \text{ m}^3$ ) solution of an electrolyte is known as specific conductance. It is denoted by ( $\kappa$ ). A conductometer is the instrument used for measuring conductance.

From the conductance study it is found that the value of specific conductivity decreases with decrease in concentration. The data of specific conductance and concentration were used to construct the graph.

Present work involves synthesis of novel dihydropyrimidine derivatives to explore their antimicrobial activity. The compound Ethyl 4-(4-hydroxyphenyl)-6-methyl-2-thioxo-1,2,3,4-tetrahydropyrimidine-5-carboxylate was found to exhibit potent in-vitro antimicrobial activity with the zone of inhibition 20mm against *S. aureus*, 22mm against *Salmonella typhi* and 24mm against *Pseudomonas fluorescens*. Another compound Ethyl-4-(4-chlorophenyl)-6-methyl-2-thioxo-1,2,3,4-tetrahydropyrimidine-5-carboxylate shows antibacterial activity with a zone of inhibition 14mm against *S. aureus* and 23mm against *Pseudomonas fluorescens* and other two compounds show poor antimicrobial activity against two bacterial strains. Hence it is concluded that there is ample scope for further study in developing these compounds for treatment of bacterial strains which may show poor to good antibacterial activity.

The absorption spectra of dihydropyrimidine derivatives have been evaluated.



**“SYNTHESIS AND CHARACTERIZATION OF  
NANOCRYSTALLINE COBALT OXIDE BY SOL GEL  
TECHNIQUE”**

**DISSERTATION SUBMITTED**

**TO**

**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

**FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE**

**By**

**Ms. Prajakta G. Badarkhe**

**SUPERVISOR**

**Dr. G.N.Chaudhari  
Associate Professor  
Department of Chemistry,  
Shri Shivaji Science College  
Amravati**

**Department of Chemistry,  
Shri Shivaji Science College, Amravati  
JULY—2021**

**Dr.G.N.Chaudhari**  
**Nanotechnology Research Laboratory,**  
**Department of Chemistry**  
**Shri Shivaji Science College ,Amravati**  
**Email:gnchaudhari@gmail.com**



### **CERTIFICATE**

This is certify that the work incorporated in this dissertation entitled  
**“SYNTHESIS AND CHARACTERIZATION OF NANOCRYSTALLINE  
COBALT OXIDE BY SOL GEL TECHNIQUE”** submitted by **Ms. Prajakta G.  
Badarkhe** was carried out by her under my supervision at Nanotechnology  
Research Laboratory, Department of Chemistry, Shri Shivaji Science College,  
Amravati. To the best of my knowledge the matter embodied in the dissertation has  
not been submitted to any University/Institute.

**Date:**  
**Place: Amravati**

**Dr. G.N.Chaudhari**  
**Project Supervisor**

# **PROJECT REPORT**

On

**“Synthesis of Dihydropyrimidinone Derivatives and study its Physicochemical properties and Antimicrobial activity.”**

**Submitted for partial fulfilment of Degree of  
Master of Science**

**In**

**Chemistry**

**Sant Gadge Baba Amravati University,  
Amravati.**

By

**Ms.Prajakta V. Gaikwad.**

Under guidance of

**Dr.Yogita S. Thakare**

**(M. Sc., Ph.D, NET, SET)**

**P.G. DEPARTMENT OF CHEISTRY,  
SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**2020-21**



### Certificate

This is certify that this dissertation “**Synthesis of Dihydropyrimidinone Derivatives and study its Physicochemical properties and Antimicrobial activity**” is a bonafide project work carried out by Miss. Prajkta V. Gaikwad student of M.Sc. (Chemistry) under my supervision in Post Graduate Department of Chemistry. Shri Shivaji Science College, Amravati during the academic year 2020-2021 in partial fulfilment of the requirement for the award of degree of M.Sc. and that dissertation has not form the basis for the award of any diploma, associate ship, fellowship or other similar title.

Date : 26-8-2021

Place : Amravati

Dr.Yogita S. Thakare  
Department of Chemistry  
ShriShivaji Science College,  
Amravati.

**"STUDY ON REVIEVE OF ANTI SORIASYS  
DRUGS AND THEIR SYNTHETIC ROUTS".**

Submitted by  
partial fulfillment of Degree of  
**Master of Science In Chemistry**  
**Sant Gadge Baba Amravati University, Amravati.**

**By**  
**Miss. Priyanka Sawalkar.**

**Under Guidance of**  
**Dr. S.P.Ingole**  
**Assistant Professor,**

**P. G. Department of Chemistry**  
**Shri Shivaji Science College, Amravati**

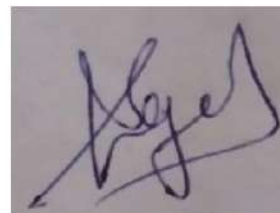
**2020-2021**

## Certificate

Certified that the work incorporated in this thesis entitled "STUDY ON REVIEVE OF ANTI SORIASYS DRUGS AND THEIR SYNTHETIC ROUTS". by Miss. Priyanka Sawalkar was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.

**Place:Amravati**

**Date- 26/8/2021**



**Dr. S.P.Ingole**  
**Department ofChemistry**  
**Shri Shivaji Science**  
**College,Amravati**

**"A Green reduction of graphene oxide via starch based materials (corn powder)"**

Submitted by partial fulfillment of  
Degree of  
Master of Science  
In  
Chemistry  
Sant Gadge Baba Amravati University,  
Amravati.

**By**

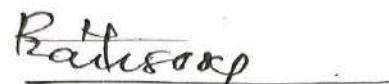
**Miss. Radhika S. Jakhotiya**

**Under Guidance of  
Dr. N. H. Bansod  
M.Sc. Ph.D. (NET)**

**P. G. Department of Chemistry  
Shri Shivaji Science College, Amravati  
2020-2021**

## Certificate

Certified that the work incorporated in this thesis entitled “**A Green reduction of graphene oxide via starch based materials (corn powder)**” by Miss. Radhika Sukhdeo Jakhotiya. was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.



**Place : Amravati**

**Date:**

**Dr.N.H. Bansod**  
**Department of Chemistry**  
**Shri Shivaji Science College,**  
**Amravati**



**“Preparation of Graphene oxide /Green tea and investigation of their adsorption performance of Dye”**

Submitted by partial fulfillment of  
Degree of  
Master of Science  
In  
Chemistry  
Sant Gadge Baba Amravati University,  
Amravati.

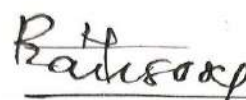
**By**

**Miss. Rameshwari R. Nimbhorkar**  
Under Guidance of  
**Dr. N. H. Bansod**  
**M.Sc. Ph.D. (NET)**

**P. G. Department of Chemistry**  
**Shri Shivaji Science College, Amravati**  
**2020-2021**

## Certificate

Certified that the work incorporated in this thesis entitled “**Preparation of Graphene oxide / Green Tea and investigation of their adsorption performance of Dye**” by Miss. Rameshwari Rameshrao Nimbhorkar. was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.



**Place : Amravati**

**Date:**

**Dr.N.H. Bansod**  
**Department of Chemistry**  
**Shri Shivaji Science College,**  
**Amravati**

**CONCLUSION :-**

The GO and rGO were successfully synthesized . GO was obtained from graphite by improved Hummers method while rGO was prepared by using Green Tea . The obtained results of XRD , FTIR , and UV for both GO and rGO proved that they were synthesized . In XRD , GO and rGO exhibit their unique pattern .FTIR analysis shows the oxygenfunctional groups were significantly decreased when GO was reduced to rGO whereas UV-visible supported the difference by showing different peak at 1.22nm and 1.38 nm .Thus these exclusive propertiesof GO and rGO could fulfill the needs in the society.

A slightly modified method was used in this work to synthesis GO which was later used as a precursor of the synthesis of graphne .The non explosive and time saving mixing of two mixtures was done by avoiding the time taking slow addition of the highly explosive  $KMNO_4$  in the ice bath. The addition of the acids mixtures of graphite and  $KMNO_4$  is much less explosive than the slow addition of  $KMNO_4$  to the other mixture. Easily available ,cheap, and green reducing as well as capping agent at the same time with a maximum capacity to reduce GO to produce graphne having a better solubility in aqueous to solvent was discovered from *Vernonia amygdalina*.The attributed to the existence of a larger number of terpenoids and polyphenol in its methanol extracts. This green synthesis method is considered to be the preferred method to manufacture graphene based material on large scale, ecofriendly and economical way. The method

**“SYNTHESIS AND CHARACTERIZATION OF  
CHROMIUM OXIDE NANOPARTICLES USING SOL  
GEL-TECHNIQUE”**

**DISERTATION  
SUBMITTED TO,**

**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

**FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN THE SUBJECT CHEMISTRY IN FACULTY OF  
SCIENCE**

**By  
Ms. Sakshi M. Gawande**

**SUPERVISOR  
Dr. Anjali.B.Bodade  
Associate Professor  
Department of Chemistry,  
Shri Shivaji Science College  
Amravati**

**Department of Chemistry,  
Shri Shivaji Science College, Amravati  
2020-2021**


**Dr.A.B.Bodade,**  
Nanotechnology Research Laboratory,  
Department of Chemistry  
Shri Shivaji Science College,  
Amravati-444601, M.S, India  
Email: [anjalibodade@rediffmail.com](mailto:anjalibodade@rediffmail.com)



## **CERTIFICATE**

This is to certify that the work incorporated in this dissertation entitled “**SYNTHESIS AND CHARACTERIZATION OF CHROMIUM OXIDE NANOPARTICLES USING SOL –GEL TECHNIQUE**” submitted by **Ms. Sakshi M. Gawande** was carried out by her under my supervision at Nanotechnology Research Laboratory, Department of Chemistry, Shri Shivaji Science College, Amravati. To the best of my knowledge the matter embodied in the dissertation has not been submitted to any University/Institute.

**Date:**  
**Place: Amravati**

  
**Dr. A. B. Bodade**  
**Project Supervisor**

**Conclusion:-**

The synthesis of CrO nanoparticles was carried out by sol-gel technique. The synthesized nanoparticles are confirmed by colour changes and it has been characterized by XRD, FTIR, UV, SEM. Its size was confirmed by X-ray diffraction study and was found to be 20.25nm. The bonding was confirmed from FTIR study as it has shown different peaks confirming the presence of CrO and presence of oxide. SEM shows that the synthesized nanoparticles were globular in shape, SEM also confirms its topography, texture.

**PROJECT REPORT ON**  
**“AN APPROACH TO GREEN SYNTHESIS**  
**OF SCHIFF BASES IN AQUEOUS MEDIUM”**

Submitted for the fulfilment of degree of

*Master of Science*

*In*

*CHEMISTRY*

*Sant Gadge Baba Amravati University, Amravati*

Submitted By

**Miss. Shamli S. Shelke**

Guided By

**Dr. P. R. Mandlik**

M.Sc., B.Ed., Ph.D. (SET)

Associate Professor

Department of Chemistry

Shri Shivaji Science College, Amravati

**P. G. Department of Chemistry**

**Shri Shivaji Science College, Amravati**

**2020- 2021**



**Dr. P. R. Mandlik**

M.Sc., B.Ed., Ph.D. (SET)

Associate Professor

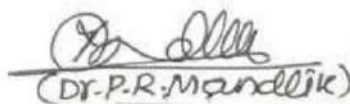
Department of Chemistry

Shri Shivaji Science College,

Amravati- 444603

### CERTIFICATE

Certified that the work incorporated in this thesis entitled “*An Approach to Green Synthesis of Schiff Bases in Aqueous Medium*”, by Miss. Shamli S. Shelke was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.



(Dr. P. R. Mandlik)

Place: Amravati

Date: 30 / 07 / 2021

Dr. P. R. Mandlik

Supervisor



**Conclusion:-**

The new Schiff bases are synthesis by the condensation of veratraldehyde and 4-Hydroxybenzaldehyde with Isoniazide, 2,6 Diaminopyridine, 2,4 Dinitrophenyl Hydrozine, and 2 Aminobenzothiazole by applying green synthetic route. Formation of Schiff bases were confirmed by determining their melting points. All the synthesized Schiff bases are solids with sharp melting points. The synthesized Schiff base were characterized by spectral techniques (UV-Vis and IR spectra). The spectral data show that all the compounds have characteristic absorption frequencies as expected for the Schiff bases.

The method shown here is the most convenient way to synthesize Schiff bases ligand in which green method plays an important role for promoting the condensation reaction of aldehydes and amines. Water plays the role of ecofriendly solvent; In conclusion, a simple efficient and fast method has been developed for the synthesis of novel Schiff bases under green and convenient method.

**PROJECT REPORT ON**

**“SYNTHESIS OF SCHIFF BASES IN AQUEOUS MEDIUM:  
GREEN ALTERNATIVE APPROACH WITH EFFECTIVE  
MASS YIELD AND HIGH REACTION RATES”.**

Submitted for the fulfillment of degree of

*Master of Science*

*In*

**CHEMISTRY**

Sant Gadge Baba Amravati University, Amravati.

**Submitted By**

*Miss. Shivani K. Pandey*

**Guided By**

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M.Sc., B.Ed., Ph.D. (SET)

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**Shri Shivaji Science College, Amravati**

**2020 - 2021**



**Dr. P. R. Mandlik**

M.Sc., B.Ed., Ph.D. (SET),

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Shri Shivaji Science College,

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### **CERTIFICATE**

Certified that the work incorporated in this thesis entitled *“Synthesis of Schiff Bases in Aqueous Medium: A Green Alternative Approach With Effective Mass Yield and High Reaction Rates ”* by *Miss. Shivani K. Pandey* was carried out by the candidate under my supervision. The work incorporated in this dissertation has not been submitted to this or any other university or any other degree of academic award.



(Dr. P. R. Mandlik)

**Dr. P R Mandlik**

Supervisor

Date: 30 / 07 / 2021

**PROJECT WORK**  
**ON**  
**“SYNTHESIS OF CHALCONE”**  
**(SYNTHESIS OF 1,3 DIPHENYL PROP-2-ENE-1-ONE)**

*Submitted for partial fulfillment of  
Degree Of Master Of Science In Chemistry,  
Sant Gadge Baba Amravati University, Amravati*

*By*  
**Shweta D. Saurkar**  
**M. Sc. II**

*Under the Guidance of*  
**Dr. Kishore N. Puri**  
**M.Sc., Ph. D**

**P.G. DEPARTMENT OF CHEMISTRY**  
**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**P.G. DEPARTMENT OF CHEMISTRY SHRI  
SHIVAJI SCIENCE COLLEGE, AMRAVATI.**

**CERTIFICATE**

This is to certify that Shweta D. Saurkar is a bonafied student of M.sc (Chemistry) course conducted by Shri Shivaji Science College, Amravati during the academic year of 2020-2021. He has completed this dissertation entitled “**Synthesis of chalcone**” Under the supervision of **Dr. Kishore Puri**. This work is submitted in the partial fulfillment of the requirements for the degree of Master Of Science In Chemistry Of Sant Gadge Baba Amravati University. This work is certified for presentation before the board of examiners.

*K.N Puri*

Under the guidance of

**Dr. K. N. Puri**

Associate Professor,

Department of Chemistry,

Shri Shivaji Science College,

Amravati

**Viscometric Study of Substituted Aldehyde in Binary  
Solvent**

**DESSERTATION**

SUBMITTED

TO

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI FOR

THE DEGREE OF

MASTER OF SCIENCE

IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE BY

**Miss. Vaishnavi P. Asare**

SUPERVISER

**Dr. Archana S. Burghate**

M.Sc., M.Phil., Ph.D

P.G. Department of Chemistry Shri Shivaji Science College, Amravati.

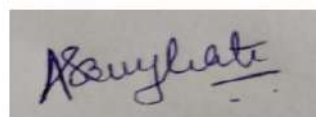
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Shri Shivaji Science College, Amravati

**MAY-2020**

## CERTIFICATE

This is to certify that the work incorporated in this project Work is the bonafide work done by **Ms. Vaishnavi P. Asare** under my supervision in P.G. Department of Chemistry, Shri Shivaji Science College, Amravati.



**Dr. A. S. Burghate**

Professor,  
Department of Chemistry,  
Shri Shivaji Science College,  
Amravati

# **"Synthesis and characterization of Cupric Oxide Nanoparticles by Sol-Gel Method"**

## **DISSERTATION**

**Presented For the fulfillment of award of degree of  
MASTER OF SCIENCE  
IN  
CHEMISTRY**

**Submitted to**

**Sant Gadge Baba Amravati University,  
Amravati**

**By**

**Ms. Vaishnavi S. Wankhade**

**Supervisor**

**Dr. P. R. Padole**

**Professor  
Department of Chemistry  
Shri Shivaji Science College, Amravati**

**2020-2021**



**CERTIFICATE**

This is certify that the work incorporated in this dissertation entitled “**SYNTHESIS AND CHARACTERIZATION OF CUPRIC OXIDE NANOPARTICLES BY CITRATE SOL-GEL METHOD** ” submitted by Ms. Vaishnavi S. Wankhadewas carried out by her under my supervision at Nanotechnology Research Laboratory, Department of Chemistry, Shri Shivaji Science College, Amravati. To the best of my knowledge the matter embodied in the dissertation has not been submitted to any University/Institute.

**Dr. P. R. Padole****Professor****Department of Chemistry****Shri Shivaji Science College, Amravati**

## 5.1. Conclusion

The thesis reported the possibility to grow CuO nanostructures by using sol gel method techniques. The nanocrystalline CuO was prepared by using simple low cost sol gel method. The nanocrystalline CuO characterized by using XRD and IR. The XRD and IR shows sharp peaks for CuO.



# **DESSERTATION REPORT**

ON

## **SYNTHESIS OF 1,2-HYDROXYPHENYL-3-PHENYL PROP-2-ENE-1-ONE**

SUBMITTED TO

**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

**FOR THE DEGREE OF MASTER OF SCIENCE**

**IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE**

BY

**Mr. YOGESH GANGARAM HEKADE**

**SUPERVISOR**

**Dr. SHRIKANT A. WADHAL**

**M.Sc., Ph.D , B.Ed , (SET)**

**P.G. Department of Chemistry**

**Shri Shivaji Science College, Amravati.**

**2020-2021**

## CERTIFICATE

This is to certify that **Mr.YOGESH G. HEKADE** is a bonafied student of M.Sc. (Chemistry) course conducted by Shri Shivaji Science College, Amravati during the academic year of 2020-2021.He has completed this dissertation entitled “**SYNTHESIS OF 1,2 HYDROXY PHENYL-3-PHENYL PROP-3-ENE-1-ONE**” Under the supervision of Prof. **S.A.Wadhal**. This work is submitted in the partial fulfillment of the requirements for the degree of Master Of Science In Chemistry Of Sant Gadge Baba Amravati University. This work is certified for presentation before the board of examiners.

Under the guidance of

**Dr. S. A. WADHAL**

Professor,  
Department of Chemistry,  
Shri Shivaji Science College, Amravati

**Conclusion :**

Chalcones are pharmacologically active compounds, chemically known as derivatives of 1,2-hydroxydiphenylprop-3-en-1-one. In this review, some chalcone have been reported to show good anticancer property given their ability to prevent tubulin polymerization or stabilize microtubule. Some are inhibitors of the suppressor protein P53, blockers of nitric oxide production or inhibitors of cytochrome P450 enzymes.

Some chalcones have been reported to selectively inhibit COX-2 over COX-1 making them a better anti-inflammatory with less adverse effect than the classical NSAIDs which selectively inhibit COX-1 over COX-2. Chalcones have also been reported to show excellent inhibition of lipoxygenase, making this class of compound good antioxidant agent.

In cardiovascular disease management, chalcones establishes a fascinating presence given their 490 D. I. Ugwu et al.: Synthesis and Pharmacological



# DESSERTATION REPORT

ON

## **SYNTHESIS OF 1,3 DIPHENYL PROP-2-ENE-1-ONE**

SUBMITTED TO

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

FOR THE DEGREE OF MASTER OF SCIENCE

IN THE SUBJECT CHEMISTRY IN FACULTY OF SCIENCE

BY

**Mr. Syed Zaid Ali Syed Parvez Ali**

SUPERVISOR

**Prof. SHRIKANT A. WADHAL**

M.Sc., Ph.D , B.Ed , (SET)

P.G. Department of Chemistry

Shri Shivaji Science College, Amravati.

2020-2021

## CERTIFICATE

This is to certify that **Mr.Syed Zaid.P.Ali** is a bonafied student of M.Sc. (Chemistry) course conducted by Shri Shivaji Science College, Amravati during the academic year of 2020-2021.He has completed this dissertation entitled **“SYNTHESIS OF 1,3 DIPHENYL PROP-2-ENE-1-ONE”** Under the supervision of Prof. **S.A.Wadhal**. This work is submitted in the partial fulfillment of the requirements for the degree of Master Of Science In Chemistry Of Sant Gadge Baba Amravati University. This work is certified for presentation before the board of examiners.



Under the guidance of

**Dr. S. A. WADHAL**

Professor,  
Department of Chemistry,  
Shri Shivaji Science College,

**Mr. Syed Zaid Ali Syed Parvez Ali**

M.Sc.Organic Chemistry, Semester IV

**Conclusion :**

From the above review, it can be said that Chalcones are pharmacologically active compounds, chemically known as derivatives of 1,3-diphenylprop-2-en-1-one. In this review, some chalcone have been reported to show good anticancer property given their ability to prevent tubulin polymerization or stabilize microtubule. Some are inhibitors of the suppressor protein P53, blockers of nitric oxide production or inhibitors of cytochrome P450 enzymes.

Some chalcones have been reported to selectively inhibit COX-2 over COX-1 making them a better anti-inflammatory with less adverse effect than the classical NSAIDs which selectively inhibit COX-1 over COX-2. Chalcones have also been reported to show excellent inhibition of lipoxygenase, making this class of compound good antioxidant agent.

We described an efficient protocol for the synthesized compounds in good yields from aromatic acetophenone and aldehydes. The synthesized compounds were characterized by melting point and IR spectrum. The results obtained from the study confirmed that the product has formed. Hence forth



## Department of Computer Science

List of Students under taking Project Work

S.No.	Name of the Student
1	Aishwarya Budhaji Adikane
2	Amreen Abdul Sheikh
3	Sampada Nandkishor Behare
4	Amit Mohandas Chfle
5	Kavita Purushottamrao Chaukade
6	Mahesh Himmat Chavan
7	Pooja Pramodrao Deshmukh
8	Rutuja Ravindrarao Diwate
9	Pranjali Umeshrao Gaurkhede
10	Roshani Pralhad Gupta
11	Ashwini Sunil Ingale
12	Ankita Pruthviraj Ingole
13	Pooja Vishnu Jadhao
14	Vaishnavi Kailasrao Pachpor
15	Aradhya Wamanrao Rathod
16	Shraddha Kishor Sawarkar
17	Nikita Diliprao Shahane
18	Diksha V. Tiple
19	Mahesh Deonathjee Wanode
20	Akansha V. Warhekar
21	Aachal r. Kashyap
22	Abhishek Sudke
23	Dhanashree Kaneri
24	Prajwal S. Kandalkar
25	Pratiksha A. Gulhane

Title and Place of Work

**PROJECT REPORT**  
**ON**  
**“Tour and Travels Services”**


**Submitted to**  
**Sant Gadge Baba Amravati University,**  
**Amravati**

**In partial fulfillment of the requirement of**  
**M.Sc. (Computer Software) Final Year Examination**

**Submitted by**  
**Miss. Aishwarya B. Adikane**

**Under the guidance of**  
**Prof Mr. M. M. Bhonde**

**(Department Of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati.**  
**2020-2021**

## Project Work Completion

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**

This is to certify that the Project Report entitled "Tour and Travels Services" being submitted by **Miss. Aishwarya B. Adikane** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
**Date:**

**Project Guide**  
Prof Mr. M. M.Bhonde

**External Examiner**

**Internal Examiner**

**Head**  
**Dept. of Computer Science**

## CONCLUSIONS

### 6.1 Limitations of the System

- Some Times Very high data Interaction so server is down.
- Very High security needed to This System.
- It is a step by step procedures i.e., all steps are comes after one another.
- So, every steps is need to be first completed then only we can move the other steps, we need to wait.

### 6.2 Future Scope of the Project

Future Development Future Development is very important for each project because it includes latest features in the System. It reduces software bugs and problems. It creates strong relationship with customer according their feedback or choices. I will integrate some dynamic features in Tour and Travels Services which features may integrate these are explaining briefly.

- Reporting module with real time mechanism.
- Latest design structure with seamless flow.
- E-mail & Mobile confirmation System.
- Online booking System.
- Online payment system.

### 6.3 Conclusion

This web application was successfully created and stored all the travel admin tourism packages booking, creation managing and tour details into the database using this application. The application was tested very well and the errors were properly debugged. Testing also concluded that the performance of the system is satisfactory. All the necessary output is generated. This system thus provides an easy way to automate all the functionalities of consumption. If this application is implemented in few consumption, it will be helpful. Further enhancements can be made to the project, so that the website functions in a very attractive and useful manner than the present one. It is concluded that the application works well and satisfy the needs. The application is tested very well and errors are properly debugged. It also acts as the sharing of files to the valuable resources.

# PROJECT REPORT

ON

“FILE SHARING IN CLOUD COMPUTING”

Submitted to

**Sant Gadge Baba Amravati University Amravati.**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**Miss. Amreen Firdous Abdual Jameel**

**Under the guidance of**

**Mr. M.M. Bonde**

**Miss S. A. Kakade**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**

**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati. 2020-2021**

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**

This is to certify that the Project Report entitled “**File Sharing in Cloud Computing**” being submitted by **Miss Amreen Firdous Abdual Jameel** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:

**Project Guide**

MR. M. M. Bonde  
Miss. S. A. Kakade

**External Examiner**

**Internal Examiner**

**Head**  
**Dept. of Computer Science**

## 9.CONCLUSION

In this paper, we present a secure and fault-tolerant key agreement for group data sharing in a cloud storage scheme. Based on the SBIBD and group signature technique, the proposed approach can generate a common conference key efficiently, which can be used to protect the security of the out sourced data and support secure group data sharing in the cloud at the same time. Note that algorithms to construct the SBIBD and mathematical descriptions of the SBIBD are presented in this paper. Moreover, authentication services and efficient access control are achieved with respect to the group signature technique. In addition, our scheme can support the traceability of user identity in an anonymous environment.

In terms of dynamic changes of the group member, taking advantage of the key agreement and efficient access control, the computational complexity and communication complexity for updating the common conference key and the encrypted data are relatively low.

**PROJECT REPORT  
ON**

**“E-commerce website”**

**Submitted to**

**Sant Gadge Baba Amravati University  
Amravati**

**In partial fulfillment of the requirement of**

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**Ku. Sampada Nandkishor Behare**

**Under the guidance of**

**Mr. Y.V. Hushare**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's  
SHRI SHIVAJI SCIENCE COLLEGE  
Amravati.  
2020-2021**



Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**


This is to certify that the Project Report entitled **E-commerce website** being submitted by Miss **Ku. Sampada Nandkishor Behare** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:

External Examiner

  
Project Guide

Internal Examiner

Head  
Dept. of Computer Science

## 6. CONCLUSION

### Future Scope of the Project

E-commerce business is the best option available for the people to build a better business world for insuring success in future rather than doing a traditional mode of business. For any business person, to have an e-commerce business is added advantage for their business. Several factors for the importance of ecommerce business:-

- **Convenience**

Sometimes, the question arises that why do you use e-commerce website for online shopping? The most prominent answer to this question is convenience. One person can shop, buy and sell products while sitting at home at anytime.

- **Round the clock service**

E-commerce provides us round the clock services at all times even in midnight. So the customers do not require visiting a physical market if they need something during the night. It is the most convenient option for the people who are usually busy with their working schedules. So it helps you to be available for your customer 24×7.

- **Wide Platform**

E-commerce brings a wide range of customers across the nation or globe to your business. Therefore, it is a wise choice to choose an e-commerce platform to cross the geographical barriers for your business.

- **Business promotion**

E-commerce is directly link to your business promotions, as it is the age of digital media. Making your business available online is crucial to your business development such as, highly convenience, wide exposure, global customer, easy to run, etc. and it will help in creating a strong & global brand image for your business.

- **Lesser cost**

If the inventory management of goods and services is an automated process then not only there will be a reduction in costs, but also in risk. Also having an ecommerce business is much more cost effective than a physical store as it saves your extra expenses like rent, electricity, etc.

- **Easy setup**

The setting up cost of e-commerce business is extremely low as compared to setting up of a physical shop. Moreover, it is quite easier to license and permit e-commerce marketing site than a physical shop.

# PROJECT REPORT

ON

## “Exam Counter”

Submitted to

**Sant Gadge Baba Amravati University**

**Amravati**

In partial fulfillment of the requirement of

**M.Sc.(Computer Software)Final Year Examination**

Submitted by

**Name: Mr. Amit Mohandas Chafle**

Under the guidance of

**Mr. M. M. Bhonde**

**(Department of computer science)**



Department of computer science Shri Shivaji Science College  
Amravati. 2020-2021

## CERTIFICATE

This is certify that the project report entitled “**Exam Counter**” is carried out and developed by **Amit Chafle** in partial fulfillment of the M. Sc. (final year)and submitted to **Sant Gadge Baba Amravati University, Amravati** under guidance and supervision.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Head Department of Computer Science**

**External Examiner**  
\_\_\_\_\_

**Internal Examiner Project guide:**

DEPARTMENT OF COMPUTER SCIENCE , SHRI SHIVAJI SCIENCE  
COLLEGE AMRAVATI. 2020-2021

**Place :Amravati**

**Date: 02/08/2021**

## 10. CONCLUSION

- The main aim of our project is create a bridge between offline and online exams. We are trying to do the project at best level to satisfy all the end users
- Reduces paper work due to online examin
- It also reduces workload and other work relating to examination process. Online examination give result at same time so its time saving process. This will again help in registering the problems that one is facing in particular area and by continuously following up them will result in a good, clean and peaceful environment.

**PROJECT REPORT**

**ON**

**“ONLINE FEEDBACK SYSTEM”**

**Submitted to**

**Sant Gadge Baba Amravati University  
Amravati**

**In partial fulfillment of the requirement of**

**M.Sc. (Computer Software) Final Year Examination**

***Submitted by***

**Ku. Kavita Purushottamrao Chaukade**

**Under the guidance of**

**Dr. U. S. Junghare**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's  
SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati.**

**2020-2021**

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**

This is to certify that the Project Report entitled **Online\_Feedback\_System** being submitted by **Miss Ku\_Kavita\_Purushottamrao\_Chaukade** in partial fulfillment for the award of **Master of Science in Computer Software (Final Year)** **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:

External Examiner

Project Guide

---

Internal Examiner

Head  
Dept. of Computer Science

## Conclusion

This is the best Online Feedback web application for providing the facility them to give feedback about their faculties and users can use their login ID's to give feedback about their faculties using the online web application. The quality of education may be increase using the feedback process. The work flow of this web application very secure and properly maintain the students can give feedback in database application and it can be easily upload in local IIS Server or any space service provider server, not and further tools require for the supports of this web application .Normally conventional system we use maximum manual applications. It consumes lots of time and paper. But this system totally Web based, it means that student can enter into the system very easily. They can view the details of the Colleges University, Hospitals and Restaurants and their contact information. This system is totally user friendly and timesaving and cost effective system. All the modules are designed in a way that a layman can understand the system very easily. College/Hospital/Hotel can reach the place where they want to reach in a very minimum amount of time.

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**PROJECT REPORT**

**ON**

**“ATM System”**

**Submitted to**

**Sant Gadge Baba Amravati University  
Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**MAHESH H. CHAVHAN**

**Under the guidance of**

**Prof Dr. U. S. Junghare**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's  
SHRI SHIVAJI SCIENCE COLLEGE  
Amravati.  
2020-2021**

## CERTIFICATE

This is to certify that the Project Report entitled “ATM System” being submitted by **Mr. MAHESH H CHAVHAN** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:

Project Guide

Prof. Dr. U.S.Junhare

External Examiner

Internal Examiner

Head

Dept. of Computer Science

## CONCLUSIONS

### 4.1 Limitations of the System:

- The user unable to change the core elements. Hence there is a limitation of customization.

### 4.2 Future Scope of the Project:

There are some IT companies which are already working on this type of project.

### 4.3 Conclusion

The 'ATM System' provides the better way of dealing with the system very effectively.

It also gives very inter activeness to the user.

It can be very easily used by the layman people.

The another feature of this software is tempored proof so it is highly secured.

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**PROJECT REPORT**  
**ON**  
**“STUDENT PERFORMANCE PREDICATION SYSTEM”**

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

**In partial fulfillment of the requirement of**

**M.Sc. (Computer Software) Final Year**  
**Examination**

**Submitted by**

**Ku. Pooja Pramodrao Deshmukh**

**Under the guidance of**

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**Ms. S. K. Kabire**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHIVAJI SCIENCE COLLEGE**  
**Amravati. 2020-2021**

**CERTIFICATE**

This is to certify that the Project Report entitled “**Student Performance Predication System**” being submitted by **Miss Pooja Pramodrao Deshmukh** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place: Amravati**

**Date:**

**Project Guide**

**Dr. U. S. Junghare  
Ms. S. K. Kabire**

**External Examiner**

**Internal Examiner**

**Head**

**Dept. of Computer Science**

## Conclusion :

In this study, student's performance is predicted and graph is generated to improve efficiency and make the student apt for the better placement. This study will also work to identify those students who in need of special attention to increase their performance. Predicting students' academic performance is great concern to the higher education. With the help of classification and clustering technique the performance of student is identified to a maximum extent, and the result obtain through this research work reveals the positive outcome of student involvement in improving university quality. Classification technique is used to classify the student according to their academic results. They classified as average performer, intermediate performer and better performer. This experimental study can be further expanded which meets lot more academic constraints which creates effective impact in the overall outcome of the student and institution

**PROJECT REPORT**  
**ON**  
**“Online E-health Smart Card System”**  
**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**  
**In partial fulfillment of the requirement of**  
**M.Sc. (Computer Software) Final Year Examination**

***Submitted by***  
**Ku. Rutuja Ravindrarao Diwate**

**Under the guidance of**  
**Mr. Y. V. Hushare**  
**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati.**  
**2020-2021**

**CERTIFICATE**

This is to certify that the Project Report entitled Online E-Health Smart Card System being submitted by **Mr / Miss Rutuja Ravindrarao Diwate** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
**Date:**

  
**Project Guide**

**External Examiner**

**Internal Examiner**

**Head**  
**Dept. of Computer Science**



## **6. Conclusion :-**

### 6.1 Limitation of the system: -

- Training for simple computer operation is necessary for the users working on the system.
- Time to time data entries requires for smooth process.

### 6.2 Future Scope of project

The scope of smart healthcare products has expanded its horizons and has been predicted by Frost & Sullivan to be a 348.5 Billion USD market by 2025. With a lot of ongoing research and a scope to address new issues, entrepreneurs and well-established industries are competing at their best with remarkable creativity. Smart syringes, smart pills and smart RFID cabinets are gaining everyone's interest in the smart healthcare domain. RFID has been widely used for infection safety, radiology and control of infections such as TB [23]. Electronic health records are the most significant products of smart healthcare which has given an altogether new perspective for addressing big data issues. These products fall across different verticals such as health data and storage, monitoring and treatment and inventory management.

# PROJECT REPORT

ON

## “Online-Payment-Application”

Submitted to

**Sant Gadge Baba Amravati University**

**Amravati**

In partial fulfillment of the requirement of  
**M.Sc.(Computer Software)Final Year Examination**

Submitted by

Name: **Ms.Pranjali Umeshrao Gaurkhede**

Under the guidance of

**Dr.U.S.Junghare**

**(Department of computer science)**



Department of computer science Shri Shivaji Science College  
Amravati. 2019-2020

## CERTIFICATE

This is certify that the project report entitled “**Online-Payemnt-Application**” is carried out and developed by **Ms. Pranjali Umesh rao Gaurkhede** in partial fulfillment of the **M. Sc. (final year)** and submitted to **Sant Gadge Baba Amravati University, Amravati** under guidance and supervision.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Head Department of Computer Science**

**External Examiner Internal Examiner Project guide: Dr.U.S.Junghare**

**DEPARTMENT OF COMPUTER SCIENCE, SHRI SHIVAJI SCIENCE COLLEGE AMRAVATI. 2019-2020**

**Place : Amravati**

**Date:**

Payment-  
Applicational

## 9 CONCLUSION

electronic transfer funds have been around for many years and the economy has greatly benefited from this technological advance. An electronic payment system such as credit cards has facilitated monetary transactions and even provides a way to finance everyday purchases through credit.

### 9.1 Limitations

Service fees. Payment gateways and third-party payment processors charge service fees.  
Inconvenient for offline sales. Online payment methods are inconvenient for offline sales.  
Vulnerability to cybercriminals. ...  
Reliance on telecommunication infrastructure. ...  
Technical problems.

# PROJECT REPORT

ON

“E-Farming System”

Submitted to

**Sant Gadge Baba Amravati University**

**Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**Roshani P. Gupta**

**Under the guidance of**

**Prof Y. V. Hushare**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**

**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati.**

**2020-2021**

**Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati**

**CERTIFICATE**

This is to certify that the Project Report entitled “E-Farming System” being submitted by **Miss Roshani P. Gupta**, in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:



**Project Guide  
Prof. Y. V. Hushare**

External Examiner

Internal Examiner

**Head  
Dept. of Computer Science**

## CONCLUSION

This application will be helpful for farmers to know more about market information; will act as unique interface of schemes and compensation and some other things. Through this they will be always in touch of new technique and trends of farming. But some extends, new user may feel some kind of stress about its use. Overall this system is faster, secure and comfortable.

**PROJECT REPORT**  
**ON**  
**“College Friends Alumni Portal”**

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

**In partial fulfillment of the requirement of**  
**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*  
**Ku. Ashwini Sunil Ingale**

**Under the guidance of**

**Mr. M. M. Bhonde**  
**Mr. P. S. Mankar**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati.**  
**2020-2021**



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This is to certify that the Project Report entitled “**College Friends Alumni Portal**” being submitted by **Miss Ashwini Sunil Ingale** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place: Amravati**

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**External Examiner**

**Project Guide**

**Mr. M. M. Bhonde**

**Mr. P. S. Mankar**

**Internal Examiner**

**Head  
Dept. of Computer Science**

### 5.3.1 FEATURES:

- 1) It is easy to file sharing.
- 2) It is easy to access the file in any system.
- 3) The file sharing data will be secure.

## 6. CONCLUSION

### 6.1 Limitations of the System:

- In this system, notification is not generated if someone sends a friend request to another person.
- The internet connection is required to use this web application.

### 6.2 Future Scope of the Project:

It is not possible to develop a system that makes all the requirements of the user. User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:

- As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.
- Because it is based on object-oriented design, any further changes can be easily adaptable.
- Based on the future security issues, security can be improved using emerging technologies.
- Attendance module can be added
- sub admin module can be added

### 6.3 Project Summary:

In this project we can sharing the file and easy to access the file in any system. The sharing of data will be secure and safe. The alumni project will be very use full the sharing of data & some important files. And it is secure to access them.

**PROJECT REPORT**

**ON**

**“Concurrent Access Transaction System”**

**Submitted to**

**Sant Gadge Baba Amravati University,  
Amravati**

**In partial fulfillment of the requirement of  
M.Sc. (Computer Software) Final Year Examination**

**Submitted by**

**Miss. Ankita P. Ingole**

**Under the guidance of**

**Prof Mr. M. M. Bhonde**

**(Department Of Computer Science)**



**Shri Shivaji Education Society Amravati's**

**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati.**

**2020-2021**

**CERTIFICATE**

This is to certify that the Project Report entitled “Tour and Travels Services” being submitted by **Miss Ankita P. Ingole** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
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**External Examiner**

**Internal Examiner**

**Head**  
**Dept. of Computer Science**

## Conclusions

### 6.1 Limitations of the System:

- The user unable to change the core elements. Hence there is a limitation of customization.

### 6.2 Future Scope of the Project:

- There are some IT companies which are already working on this type of project

### 6.3 Conclusion

“The concurrent Access Transaction System” provides the better way of dealing with system very effectively .It also gives very interactivensess to the user .It can be very easily used by the layman people. The another feature of this software is tempered proof so it is highly secured.

## 7 References

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**PROJECT REPORT**

**ON**

**HOSPITAL MANAGEMENT**

**Submitted to**

**Gadge Baba Amravati University**

**Amravati**

**In partial fulfilment of the requirement of**

**M.S.C(Computer Software) Final Year Examination**

**Submitted by**

**Miss. Pooja v. Jadhao**

**Under the guidance of**

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**(Department of computer science)**



**Shri Shivaji Science College Amravati.  
2020-2021**

**CERTIFICATE**

This is certifying that the project report entitled “Hospital management” is carried out and developed by **Miss. Pooja v. Jadhao** in partial fulfilment of the award of M.S.C in computer software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is record of work carried out for the session

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Project Guide: Mr. Hushare Y. V. - 

Date:

Head Department of computer Science

External Examiner

Internal Examiner

**6. Conclusion: -**

Since we are entering details of the patients electronically in the “Hospital Management System”, data will be secured. Using this application, we can retrieve patient’s history with a single click. Thus, processing information will be faster. It guarantees accurate maintenance of Patient details. It easily reduces the book keeping task and thus reduces the human effort and increases accuracy speed.

## PROJECT REPORT

ON

“CAR RENTAL SYSTEM”

Submitted to

**Sant Gadge Baba Amravati University Amravati.**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**Miss. Vaishnavi Kailasrao Pachpor**

**Under the guidance of**

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P. S. Mankar**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**

**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati. 2020-2021**




**CERTIFICATE**

This is to certify that the Project Report “Car Rental System” entitled being submitted by **Miss Vaishnavi Kailasrao Pachpor** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
**Date:**



**Project Guide**  
Y.V. Hushare  
P. S. Mankar

**External Examiner**

**Internal Examiner**

**Head**  
**Dept. of Computer Science**

### Conclusion :

Car rental business has emerged with a new goodies compared to the past experience where every activity concerning car rental business is limited to a physical location only. Even though the physical location has not been totally eradicated; the nature of functions and how these functions are achieved has been reshaped by the power of internet. Nowadays, customers can reserve cars online, rent car online, and have the car brought to their door step once the customer is a registered member or go to the office to pick the car.

The web based car rental system has offered an advantage to both customers as well as Car Rental Company to efficiently and effectively manage the business and satisfies customers need at the click of a button.

## **PROJECT REPORT**

**ON**

**“STUDENTS FEEDBACK SYSTEM”**

**Submitted to**

**Sant Gadge Baba Amravati University Amravati.**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**Miss. Aaradhya Wamanrao Rathod**

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**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati. 2020-2021**


**CERTIFICATE**

This is to certify that the Project Report entitled “**Student Feedback System**” being submitted by **Miss Aaradhya Wamanrao Rathod** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

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External Examiner

Internal Examiner

Head  
Dept. of Computer Science

## **CONCLUSION**

Normally conventional system we use maximum manual applications. It consumes lots of time and paper. But this system totally Web based, it means that student can enter into the system very easily. They can view the details of the colleges affiliated under JNTU University and their contact information. This system is totally user friendly and timesaving and cost effective system. All the modules are designed in a way that a layman can understand the system very easily. Student /college can reach the place where they want to reach in a very minimum amount of time.

### **Future enhancements:**

- The complete project is to be web-based
- The student can view Results and assessment details online.
- All the services are provided in online
- College / Student user access the system staying anywhere

**PROJECT REPORT  
ON  
“ONLINE COLLEGE NOTICE BOARD”**

**Submitted to**

**Sant Gadge Baba Amravati University  
Amravati**

**In partial fulfillment of the requirement of**

**M.Sc. (Computer Software) Final Year  
Examination**

**Submitted by**

**Ku. Shraddha Kishor Sawarkar**

**Under The Guidance Of**

**Mr. Y. V Hushare**

**Ms. P.V. Bahadure**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's  
SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati 2020-21**

**CERTIFICATE**

This is to certify that the Project Report entitled “Online College Notice Board” being submitted by **Miss Shraddha Kishor Sawarkar** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

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**Place: Amravati**

**Date:**

**External Examiner**

**Project Guide**

**Mr. Y. V Hushare**

**Ms. P.V. Bahadure**

**Internal Examiner**

### **Conclusion :**

In that project online college notice board in previous year notice is manage by manual and writing in hand but in that online college notice board generated and provide by the student notice in digital way and social media that used this project.



**PROJECT REPORT**  
**ON**  
**“E – Darshan Pass System”**  
**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**  
**In partial fulfillment of the requirement of**  
**M.Sc. (Computer Software) Final Year**  
**Examination**  
**Submitted by**  
**Ku. Nikita Diliprao Shahane**  
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**Ms P. S. Mankar**  
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**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati. 2020-2021**

**CERTIFICATE**

This is to certify that the Project Report entitled “E – Darshan Pass System” being submitted by Miss Nikita Diliprao Shahane in partial fulfillment for the award of Master of Science in Computer Software (Final Year) Sant Gadge Baba Amravati University, Amravati is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati

**Date:**

**Project Guide**

**Dr. U. S. Junghare  
Ms. P. S. Mankar**

**External Examiner**

**Internal Examiner**

**Head**

**Dept. of Computer Science**

## **CONCLUSIONS:**

### **6.1 Limitations of the System:**

- The user unable to change the core elements of the personal blog. Hence there is a limitation of customization.
- User can't change the layout of his/her personal blog

### **6.2 Future Scope of the Project:**

There are some IT companies which are already working on this type of project  
eg. [www.wix.com](http://www.wix.com)

### **6.3 Conclusion:**

The system is made of a combination of modules that work in collaboration with each other and make it beneficial to accomplish the main aim of the system.

# PROJECT REPORT

ON

## “Online-Shopping-Portal ”

Submitted to

**Sant Gadge Baba Amravati University**

**Amravati**

In partial fulfillment of the requirement of  
**M.Sc.(Computer Software)Final Year Examination**

Submitted by

Name: Ms. Diksha Vasudeorao Tiple

Under the guidance of

**Dr.U.S.Junghare**

**(Department of computer science)**



Department of computer science Shri Shivaji Science College  
Amravati. 2019-2020

## CERTIFICATE

This is certify that the project report entitled “**Online-Shopping- Poratal**” is carried out and developed by **Ms. Diksha Vasudeo Tiple** in partial fulfillment of the M. Sc. (final year)and submitted to **Sant Gadge Baba Amravati University, Amravati** under guidance and supervision.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

## 9 CONCLUSION

The 'Online Shopping' is designed to provide a web based application that would make searching, viewing and selection of a product easier. The search engine provides an easy and convenient way to search for products where a user can Search for a product interactively and the search engine would refine the products available based on the user's input. The user can then view the complete specification of each product. They can also view the product reviews and also write their own reviews. Use of Ajax components would make the application interactive and prevents annoying post backs. Its drag and drop feature would make it easy to use.

### 9.1 Limitations

This application does not have a built in check out process. An external checkout package has to be integrated in to this application. Also users cannot save the shopping carts so that they can access later i.e. they cannot create wish lists which they can access later. This application does not have features by which user can set price ranges for products and receive alerts once the price reaches the particular range..

**PROJECT REPORT**

**ON**

**“Web Application of Dentist Doctors/ Patients (Oralcare)”**

**Submitted to**

**Sant Gadge Baba Amravati University**

**Amravati**

**In partial fulfillment of the requirement of**

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*

**MAHESH D. WANODE**

**Under the guidance of**

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**Shri Shivaji Education Society Amravati's**

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**2020-2021**

Shri Shivaji Education Society Amravati's  
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Shri Shivaji Science College, Amravati

## CERTIFICATE

This is to certify that the Project Report entitled “**Web Application of Dentist Doctors/ Patients (Oralcare)**” being submitted by **Mr. MAHESH D. WANODE** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati

**Project Guide**

**Date:**

**Prof. Dr. U.S. Junghare**



### 6.3 Conclusion

By adding more features in future it is expected that this Web application will go long way in a satisfying user's requirements. "Oralcare Online Consultation" is a revolutionary healthcare system by enabling patients to find best doctors and book instant appointments, online plus offline consultation and make better, more informed and integrated health decisions using advance technologies.

#### Future Scope of the Project:

For any system, present satisfaction in job is important, but it is also necessary to for see and visualizes the future scope. Future enhancement is necessary for the system as the limitations that cannot be denied today, can be overcome by better technologies. In the future more software companies will hire this software program because now days the need for the speed in the day-to-day life has become essential. As competition increases, companies by considering old version, they develop more efficient versions for individual success.

For example, in my project, records of the patients, their transactions are maintained which will be helpful in the future as reference to dealings well as evidence. Also limitations can be overcome by better technologies and system can be made more efficient. We can also add a SMS and video consulting gateway in future.

**PROJECT REPORT**  
**ON**  
**“CHATRAPATI SHIVAJI MAHARAJ”**  
**Submitted to**  
**Sant Gadge Baba Amravati University, Amravati.**  
**In partial fulfillment of the requirement of**  
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**Mr P. V. Bahadure**  
**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE, Amravati.**

**2020-2021**

Shri Shivaji Education Society Amravati's Department of Computer Science  
Shri Shivaji Science College, Amravati

### **CERTIFICATE**

This is to certify that the Project Report entitled "**Chatrapati Shivaji Maharaj**" being submitted by Miss Akanksha Vijay Warhekar in partial fulfillment for the award of **Master of Science in Computer Software (Final Year)** Sant Gadge Baba Amravati University, Amravati is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati

**Date:**

**Project Guide**

**Mr. M. M. Bonde**

**Ms. P. V. Bahadure**

**External Examiner**

**Internal Examiner**

**Head**

**Dept. of Computer Science**

## **CONCLUSIONS**

### **➤ Limitations of the System:**

- The user unable to change the core elements of the personal blog. Hence there is a limitation of customization.
- User can't change the layout of his/her personal blog

### **➤ Future Scope of the Project:**

There are some IT companies which are already working on this type of project  
eg. [www.wix.com](http://www.wix.com)

### **➤ Conclusion**

The system is made of a combination of modules that work in collaboration with each other and make it beneficial to accomplish the main aim of the system.

**PROJECT REPORT**  
**ON**  
**"ONLINE SERVICE MANAGEMENT SYSTEM"**

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*  
**Miss. Aachal Ramchandra Kashyap**

**Under the guidance of**  
**Mr. M. M. Bhonde**  
**Mr. A. D. Chavan**

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati.**  
**2020-2021**


Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati


**CERTIFICATE**

This is to certify that the Project Report entitled "**Online Service Management System**" being submitted by **Miss Aachal Ramchandra Kashyap** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
**Date:**

  
**Project Guide**  
**Mr. M. M. Bhonde**  
**Mr. A. D. Chavan**

  
**External Examiner**

  
**Internal Examiner**

  
**Head**  
**Dept. of Computer Science**

**CONCLUSION****Limitations of the System**

- SMS alert facility is not available.
- Portal is not SEO friendly
- Registration Email Verification Not available
- Risk unauthorized accessibility

**Future Scope of the Project**

The various things can be made it simple and user friendly. As by increasing some of the coding we can improve it functionality. online payment system is yet not integrated to the system which can be featured in the near future. Till now it does not have the facility of back up the database. By as the next advancement we can make it able to bundle the backup facility so that one can perform operation based on previous records.

As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.

Based on the future security issued, security can be improved using emerging technologies.

**Conclusion**

The Online Service Management System has been computed successfully and was also tested successfully by taking "Test Cases". It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The Software is developed using HTML, CSS, JS as front end and PHP, MySql as back end in windows environment. The goals that are achieved by the software are:

- ✦ Simplification of the operations
- ✦ Less processing time and getting required information
- ✦ User friendly

Portable and flexible for further enhancement

**PROJECT REPORT**  
**ON**  
**“Lead Management Chatbot”**

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year Examination**

*Submitted by*  
**Abhishek Sudke**

**Under the guidance of**  
**Mr. M. M. Bhonde**  
**Mr. P. S. Mankar**  
**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**  
**Amravati.**  
**2020-2021**

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati



## 10. CONCLUSION


- Lead Management chatbot provides a User-friendly experience for user as well as the lead tracking team or sales team
- This will again help in registering the problems that one is facing in area and by continuously following up them will result in a good, clean and peaceful environment.


**CERTIFICATE**


This is to certify that the Project Report entitled Lead Management Chatbot being submitted by **Mr / Miss Abhishek Sudke** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

**Place:** Amravati  
**Date:**

  
**Project Guide**  
**Mr. M. M. Bhonde**  
**Mr. P. S. Mankar**

  
**External Examiner**

  
**Internal Examiner**

  
**Head**  
**Dept. of Computer Science**

**PROJECT REPORT  
ON**

**Android based Suburban Railway Ticketing with GPS as  
Ticket Checker**

*in the partial fulfillment of degree for*

**MASTER OF SCIENCE**

**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

*Submitted by*

**Miss. Dhanshree Kaneri**

*Under the guidance of*

**PROF. Bonde DEPARTMENT OF**

**COMPUTER SOFTWARE,**

**SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**YEAR 2019-2020**

**CERTIFICATE**

This is certify that Project entitled

**Android based Suburban Railway Ticketing with GPS as  
Ticket Checker**

*Submitted By*

**Miss. Dhanshree Kaneri**

*In the partial fulfillment of Degree of*

**MASTER OF COMPUTER SCIENCE Is a bonafied work  
satisfactory completed under our guidance as per the requirement  
of Sant Gadge Baba Amravati University, Amravati**

**During the academic  
Year 2019-2020**

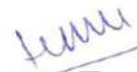


(Guided by)

**PROF. Bonde**



Internal Examiner



External Examiner

  
H.O.D.

10.

**CONCLUSION**

A mobile ticket application developed for Android 1.5 using Java, SQLite, MySQL, and PHP on the server side which can change the way people buy their tickets in future. This kind of ticketing application can be applied to any kind of transport system. Our android application is one of its kinds and finds huge application to buy suburban railway tickets through android mobile. Also our application saves a huge work for our ticket checkers by GPS validation of tickets and also moving from manual ticket checking process to digital ticket checking process by just scanning with his own android mobile to validate the ticket. Station level security we can have Hardware devices to validate the QR codes before the user enters or leaves the station, where the user can have access towards platform after being validated by the hardware device. Time trains will be available will also ease the user to allot his time accordingly to reach the station, so in our project we will be using GPS here to find the location of the user and nearby train station to display the train Hence a huge problem of issuing local train tickets has been solved with our new application. Knowing at what arrival timings. Still more advance modification can be a Dynamic display of Train locations by fitting GPS devices in trains to show its location in the Google map display which is available in our application.

**PROJECT REPORT**  
**ON**  
**“ONLINE VEHICLE REGISTRATION”**

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year**  
**Examination**

**Submitted by**

Mr. Prajwal Satishrao Kandalkar

**Under the guidance of**

Dr. U. S. Junghare  
Dr. S. R. Thakare

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati. 2020-2021**

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**

This is to certify that the Project Report entitled “**Online Vehicle Registration**” being submitted by **Mr. Prajwal Satishrao Kandalkar** in partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant Gadge Baba Amravati University, Amravati** is a record of work carried out for the session 2020-21.

To the best of my knowledge the matter presented in this project has not been presented earlier for similar degree/diploma.

Place: Amravati

Date:

  
External Examiner

  
Project Guide

Dr. U. S. Junghare  
Dr. S. R. Thakare

  
Internal Examiner

  
Head

Dept. of Computer Science

### **Conclusion :**

The Corporate Company's Vehicle Management application has rich user interface so that novice users can access easily. This application provides the management reports like Occupancy report, Approval status report, to track the usage of company's transport facility.

Our project is only a humble venture to satisfy the needs in a library. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the organization. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses. Last but not least it is no the work that played the ways to success but ALMIGHTY.



**PROJECT REPORT**  
**ON**  
“ARMY INFORMATION SYSTEM”

**Submitted to**  
**Sant Gadge Baba Amravati University**  
**Amravati**

In partial fulfillment of the requirement of

**M.Sc. (Computer Software) Final Year**  
**Examination**

**Submitted by**  
*Ku. Pratiksha Arunrao Gulhane*

**Under The Guidance Of**  
Mr. Y. V Hushare  
Mr. A. D Chavan

**(Department of Computer Science)**



**Shri Shivaji Education Society Amravati's**  
**SHRI SHIVAJI SCIENCE COLLEGE**

**Amravati 2020-21**

Shri Shivaji Education Society Amravati's  
Department of Computer Science  
Shri Shivaji Science College, Amravati

**CERTIFICATE**

This is to certify that the Project Report entitled  
“**Army Information System**” being submitted by **Miss Pratiksha Arunrao Gulhane** in  
partial fulfillment for the award of Master of Science in Computer Software (Final Year) **Sant  
Gadge Baba Amravati University, Amravati** is a record of work carried out for the session  
2020-21.

To the best of my knowledge the matter presented in this project has not been  
presented earlier for similar degree/diploma.

Place: Amravati

Date:

  
External Examiner

  
Project Guide

Mr. Y. V Hushare  
Mr. A. D Chavan

  
Internal Examiner

  
Head  
Dept. of Computer Science

### **Conclusion :**

The resultant MLMS product achieves the design goals – the two separate LMS and ORBAT views provide a simple and interactive visualization of the required data. The database which the system connects to is extensive, providing a reasonable facsimile of the real world utilization of the product. The performance in the LMS view is somewhat slower than expected. This component would benefit from performance optimizations; however, given the size of the database and the processing of the large resultant datasets, the performance is acceptable for demonstration if not for real world use.

**Department of Environmental Science**

List of Students under taking Project Work (UG)

<b>S.No.</b>	<b>Name of the Student</b>
1	Sheikh Adeeba Jasneem
2	Angha Lonkar
3	Divya Bharat Agham
4	Pallavi Rajesh Gaikwad
5	Pranali Rajesh Abruk
6	Pratiksha P. Ninnore
7	Roshani S. Bhadange
8	Ruchika V. Bobade
9	Rutuja Anil Shende
10	Srushti Chinchmalatpure
11	Sruti R. Deshmukh
12	Tejaswini N. Abruk
13	Vaishnavi Sunil kakade
14	Aditi R. Mamankar
15	Anand R. Dahikar
16	Bhavesh Raut
17	Mayuri Kshirsagar
18	Nandini Lomte
19	Prachi S. Raut
20	Remuka V. Wankhade
21	Ajay R. Kothale
22	Roshan S. Vaidya
23	Vaishnavi R. Deshmukh
24	Vivekanand Santosh Sawai
25	Vaishnavi Rajkumar Thakare
26	Vanshika V. Rathod
27	Vinay Ingole
28	Vrushali Balu Parise

Title and Place of Work

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati – 444603 (M.S.)**

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
“College with Potential for Excellence”

**Department of Environmental Science**



**ENVIRONMENTAL LITERACY SURVEY REPORT**

= SUBMITTED BY =

*Sheikh..Adeela..Jasneem..Mohammad..Sadique..*

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2020-2021**

## Project Work Completion

Shri Shivaji Education Society, Amravati's

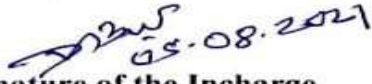
**SHRI SHIVAJI SCIENCE COLLEGE,****Shivaji Nagar, Amravati – 444603 (M.S.)**Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"**Department of Environmental Science****CERTIFICATE**

This is to certify that,

Mr. / Ms. Sheikh Adeela Jasneem.  
Mohammad Sadique.with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc (CEZ)Semester VI<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the

Syllabus and given satisfactory account of it in this project.

Date: 04/08/2021  
Signature of the Incharge

Head of the Department

## Conclusion :-

Day-by-day peoples are knowing the fact that - "Environment is and so we are". Peoples are giving their contribution to protect the environment by their activities like keeping their surrounding clean, avoiding the use of plastic bags, by doing no more use of electricity, also they are interested to transport publically, Many more peoples are planting trees also and helping in the conservation of natural beauty and indirectly they are helping to their future generation also.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

**Environmental Literacy Survey**

Name of Student Anagha Avinash Lonkar



SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

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**Department of Environmental Science**



**CERTIFICATE**

This is to certify that,

Mr./Ms. Anagha Avinash Lonkar

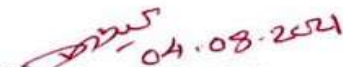
with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc. III year (CEB)

Semester VI during academic Session 2020-2021 of this institute. He/She has

completed Environmental Literacy Survey based on the Syllabus and given

satisfactory account of it in this project.

Date: / /2021

  
Signature of the Incharge

Head of the Department

### Conclusion -

From the above environmental literacy survey most of people knowing the exact meaning of environment, and they also know when the world water conservation day is celebrated and we concluded that Peoples know that environment awareness is important and it is necessary to save the environment but they don't know the perfect way to control or save it.

### Reference :

- ① [www.google.com](http://www.google.com).

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

Department of Environmental Science

Session 2020-2021

Environmental Literacy Survey

Name of Student Divya Bharat Agham

Class B.Sc.II Group CEZ Semester VI Roll No. 71605

Shri Shivaji Education Society, Amravati's

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### Certificate

This is to certify that,

Mr. / Ms. \_\_\_\_\_ Divya Bhabat Agham

with College Roll No. 71605 Studying in the Class/Group B.Sc.III / CEZ

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 04/08/2021

  
Signature of the Incharge

Head of the Department

Conclusion :

From the above environmental literacy survey most of people knowing the exact meaning of environment. And also from this observation we concluded that people knows about environmental awareness which is very important. And it is necessary to save the environment but they don't know the perfect way to control it.

Reference :

1. WWW.goggle.com
2. By previous questions set
3. By previous research on it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

**Environmental Literacy Survey Report**

Name of Student Shalvi Rajesh Gaikwad

Class B.Sc III<sup>rd</sup> year Group CEB Semester VII<sup>th</sup> Roll No. \_\_\_\_\_

Shri Shivaji Education Society, Amravati's

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### CERTIFICATE

This is to certify that,

Mr. / Ms. Yalovi Rajesh Gaikwad

with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc IIIrd year

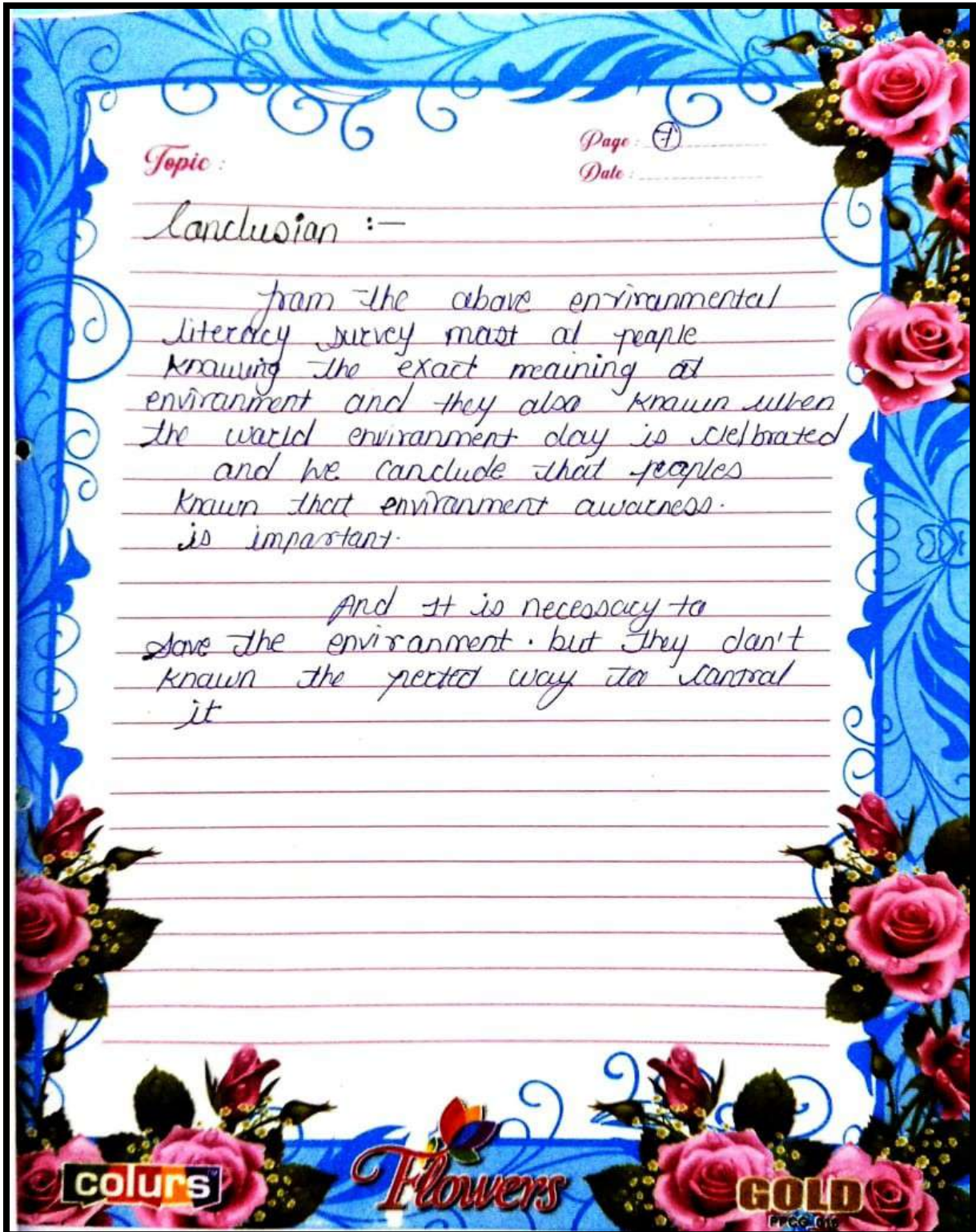
Semester VIIth during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

[Signature]  
4.8.21  
Signature of the Incharge

Head of the Department





SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student pranali Rajesh Abouk

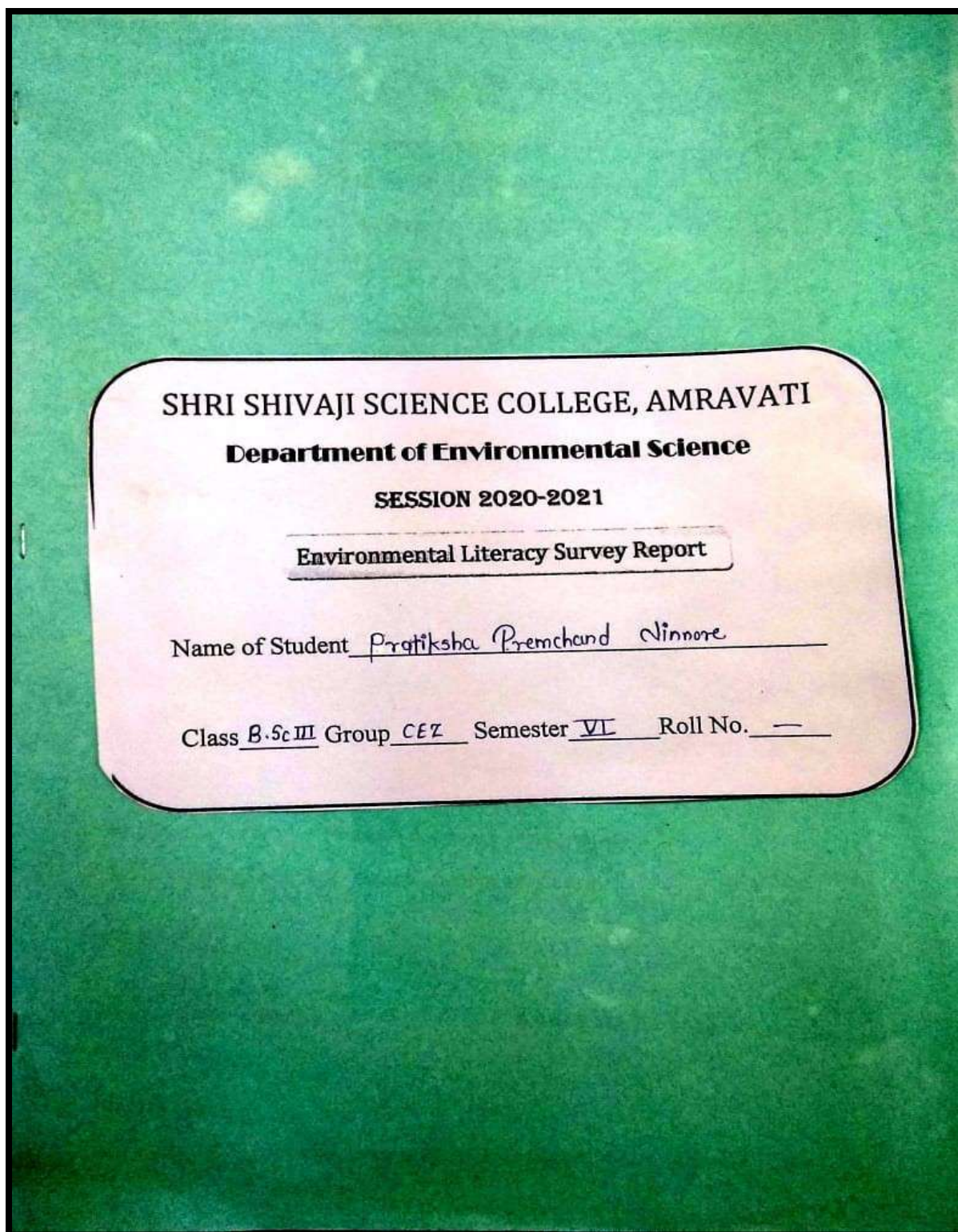
Class B.Sc. III Group CEZ Semester VI Roll No. \_\_\_\_\_

### Conclusion :-

From the above environmental literacy survey most of people knowing the exact meaning of environment. and they also know when the world environment day is celebrated and we concludes that peoples know that environment that peoples know that environment awareness is important. and It is necessary to save the environment, but they don't know the perfect way to control it.

### Reference :-

- 1) w.w.w. goggle. com
- 2) by previous question sets.



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**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati – 444603 (M.S.)**

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**Department of Environmental Science**



**CERTIFICATE**

This is to certify that,

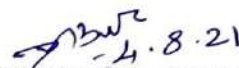
Mr./Ms. Pratiksha Premchand Ninnore

with College Roll No.        Studying in the Class/Group B.Sc.III/CEZ

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
Signature of the Incharge

Head of the Department

### Conclusion :-

Day by day people are knowing the fact that "Environment is and so we are".

Peoples are giving their contribution to protect the environment by their activities like keeping their surrounding clean, avoiding the use of plastic bags. By doing no more use of electricity, also they are interested to transport publicity. Many more peoples are planting trees also and helping in the conservation of natural beauty and indirectly they are helping to their future generations also.

### Reference :-

- 1) By previous question sets.
- 2) [www.google.com](http://www.google.com)
- 3) Collected information from various researches by different scientists about it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Roshani Sanjayrao Bhadange

Class B.Sc III <sup>rd</sup> Group CEZ Semester VI Roll No. 72061  
Year

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
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### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Roshani Sanjayrao Bhadange

with College Roll No. 7206 | Studying in the Class/Group B.Sc III<sup>rd</sup> Yr (CEZ)

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 6 / 8 / 2021

[Signature]  
10.08.2021  
Signature of the Incharge

Head of the Department

### Conclusion :-

From the above environmental literacy survey most of people knowing the exact meaning of environment and they also know when the world environment day is celebrate and we could concluded that peoples know that environment awareness is important. and It is necessary to save the environment but they don't know the perfect way to control it.

### Reference :-

- 1) WWW.goggle.com
- 2) by previous question set
- 3) and by previous research on it.



SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Ruchika Vilasrao Bobade

Class BSc. Group CEZ Semester VI Roll No. \_\_\_\_\_  
3<sup>rd</sup> year

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

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“College with Potential for Excellence”

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mt./Ms. Ruchika Vilasrao Bobade

with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc III<sup>rd</sup> year [CEZ]

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: / /2021

  
Signature of the Incharge

Head of the Department

### Conclusion :-

From the above Environmental Literacy survey most of the people knows the exact meaning of Environment and they also know when the World Environment Day is celebrated and we concluded that people knows the Environmental awareness is important and It is necessary to save the Environment but they Don't know the proper way to manage it. People also believes in to increase the greenery around us & we should plant the small plants.

### Reference :-

- 1) www.google.com.
- 2) By previous question set
- 3) By previous research on it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Rutuja Anil Shende

Class BSC III Group CEA Semester VII<sup>th</sup> Roll No. 1839

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Rutuja Anil Shende

with College Roll No. 1839 Studying in the Class/Group BSC III<sup>Yr</sup> (CEB)

Semester VII<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
04.08.2021  
Signature of the Incharge

Head of the Department

### Conclusion.

From the above environmental literacy survey most of people knowing the exact meaning of environment and they also know when the world environment day is celebrate. and we conclude that Peoples know that environment awareness is important and it is necessary to save the environment but they don't know the perfect way to control it.

### References

1. WWF. goggle. Com.
2. by Previous researches on it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Srushli Kiran Chinchmalatpure

Class B.5cIII Group CEZ Semester VI Roll No. \_\_\_\_\_

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr./Ms. Srushti Kiran Chinchmalapure

with College Roll No. \_\_\_ Studying in the Class/Group B.Sc.III/CEZ  
Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
Signature of the Incharge

Head of the Department



### Conclusion :-

Day By Day peoples are knowing the fact that "Environment is and so we are"

- 1] Peoples are giving their contribution to protect the environment by their activities like keeping their surrounding clean, avoiding the use of plastic bags, By doing no more use of electricity, Also they are interested to transport publically, Many more peoples are planting trees also and helping in the conservation of natural beauty and indirectly they are helping to their future generations also.

### Reference :-

- 1] WWW.google.com
- 2] By previous question sets.
- 3] Collected information from various researches by different scientists about it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Shruti Ranjit Deshmukh.

Class BSc 3<sup>rd</sup> year Group CEZ Semester VI Roll No. \_\_\_\_\_

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Shruti Ranjit Deshmukh

with College Roll No. \_\_\_\_\_ Studying in the Class/Group BSC-3<sup>rd</sup> year (CEZ)

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
Signature of the Incharge

Head of the Department

Conclusion - :

From the above environmental literacy survey most of people knowing the exact meaning of environment. and they also know the when environmental day is celebrated. and we concluded that peoples know that environmental awareness is important. and it is necessary to save the environment. but they don't know the perfect way to control it.

Reference - :

- ① k.l.w.l.w. goggle . com
- ② by previous question sets
- ③ and by previous research on it.

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

**Department of Environmental Science**

SESSION 2020-2021

Environmental Literacy Survey Report

Name of Student Tejaswini Narayan Abrook

Class B.Sc.III Group CEZ Semester VI Roll No. \_\_\_\_\_

Shri Shivaji Education Society, Amravati's

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### CERTIFICATE


This is to certify that,

Mr. / Ms. Tejaswini Narayan Abrak

with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc.III/CEZ  
Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
Signature of the Incharge

Head of the Department

### Conclusion :-

From the above environment literacy survey almost of people knowing the exact meaning of environment day is and they also know when the world environment day is celebrated and we concludes that people know that environment awareness is important and it is necessary to save the environment, but they don't know the perfect way to control it.

### Reference :-

- 1] W.W.W. goggle.com
- 2] By previous question sets.

Shri Shivaji Education Society, Amravati's

**SHRI SHIVAJI SCIENCE COLLEGE,****SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI****Department of Environmental Science****SESSION 2020-2021****Environmental Literacy Survey Report**Name of Student Vaishnavi sunil Kakade.Class III<sup>rd</sup> yr Group CEB Semester VI<sup>th</sup> Roll No. \_\_\_\_\_with College Roll No. \_\_\_\_\_ Studying in the Class/Group BSC III<sup>rd</sup> [CEB]Semester VI<sup>th</sup> during academic Session 2020-2021 of this institute.He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.Date: 4/8/2021  
Signature of the Incharge

Head of the Department



Shri Shivaji Education Society, Amravati's

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### CERTIFICATE

This is to certify that,

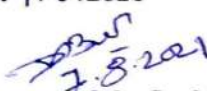
Mr. / Ms. Vaishnavi sunil kakade.

with College Roll No. \_\_\_\_\_ Studying in the Class/Group BSC III<sup>rd</sup> [CEB]

Semester VI<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

  
Signature of the Incharge

Head of the Department

### Result & Analysis.

In the environmental literacy survey in which it is conducted by ourself by visiting personally to the 10 houses of our society & observe that most of the people being aware of environment. From that we observe that most of people answering the answer as excited and we also observe that 100% of people of my society are like to join environmental organisation & they also like to participate in cycle rally or any green day & also they like to transport publically & they like to celebrate ganapati festival [eco-friendly].

### Conclusion :-

From the above environmental literacy survey most of the people knowing the exact meaning of environment & they also known when the world environment day is celebrated & we concluded that peoples know that environment awareness is important & it is necessary to save the environment but they dont know the perfect way to control it.

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## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

..Aditi Ravindea Mamankar.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

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### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr./Ms. Aditi Ravindea Mamankar

with College Roll No. \_\_\_\_\_ Studying in the Class/Group BSc-3<sup>rd</sup> year (CEE)  
Semester VI<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Project Work based on the Syllabus and given satisfactory account of it in this project.

Date: 4/7/2021

Signature of the Incharge

Head of the Department

### Conclusion –

From the above environmental literacy Survey, it is observed that, About 75% people are aware about environment & current problems of environment. Overall it is concluded that, people know the importance of environment & it is necessary to save environment, but they don't know the proper way to control it.

### Reference –

- 1) [www.google.com](http://www.google.com)
- 2) [www.slideshare.net](http://www.slideshare.net)
- 3) From Previous Research

# SHRI SHIVAJI SCIENCE COLLEGE,

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## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Anand Ramesh Dahikar

.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

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### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Anand Ramesh Dahikar

with College Roll No. \_\_\_\_\_ Studying in the Class/Group CEZ

Semester VIth during academic Session 2020-2021 of this institute. He/She has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.

Date: 03/ 07 /2021

Signature of the Incharge

Head of the Department

### Conclusion :

From the above environmental literacy survey most of the people know about the proper waste management methods which ultimately leads to the sustainable development. And we can conclude that people knows that environmental awareness is important and it is necessary to save environment.

### Reference :

[www.google.com](http://www.google.com)



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## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

.....Bhavesh S Raut.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati – 444603 (M.S.)**

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**Department of Environmental Science**



**CERTIFICATE**

This is to certify that,

Mr. / Ms. Bhavesh S Raut

with College Roll No. \_\_\_\_\_ Studying in the Class/Group CEB

Semester 6<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 04 / 08 /2021

Signature of the Incharge

Head of the Department

### Result & Analysis :-

In the environmental literacy survey in which it is conducted by ourselves by visiting personally to the 10 houses of our society and observe that most of people being aware of environment from that are we observe that most of people answering the answer as expected and we also observe that 100% people of my society are like to join environmental organisation.

and they also like to participate in cycle rally or any green day and also they like to transport publically and they like to celebrate Gyanpati Jeshive (Eco friendly)

### Conclusion :

From the above environmental literacy survey most of people knowing the exact meaning of environment. and they also know when the world environment day is celebrated and we concluded that people know that environment awareness is important and it is necessary to save the environment but they don't know the perfect way to control it.

### Reference :

1. www.google.com.
2. By previous question sets.
3. By previous research on it.

has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.

Date: 04 / 08 /2021

Signature of the Incharge

Head of the Department

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati - 444603 (M. S. )**

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"College with Potential for Excellence"

**Department of Environmental Science**



**ENVIRONMENTAL LITERACY SURVEY REPORT**

= SUBMITTED BY =

**Mayuri pradiprao kshirsagar**

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati - 444603 (M. S. )

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Department of Environmental Science



### Certificate

This is to certify that,

Mr. / Ms. Ku Mayuri pradiprao Kshirsagar.

with College Roll No. \_\_\_1885\_\_\_ Studying in the Class/Group \_3rd year(GEZ)

Semester \_\_\_6th\_\_\_ during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.

Date: 04 / 08 / 2021

Signature of the Incharge

Head of the Department

Conclusion :- From above Environmental literacy survey most of people knowing the exact meaning of environmental and they also know when the world environment day is celebrated and we concluded that people know that environment awareness is important and it is necessary to save the environment but they don't know that perfect way to control it.

Referance :-

- 1) WWW.goggle.com
- 2) by previous question sets.
- 3) by previous research on it.

has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.

Date: 04 / 08 /2021

Signature of the Incharge

Head of the Department

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati - 444603 (M. S. )**

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**Department of Environmental Science**



**ENVIRONMENTAL LITERACY SURVEY REPORT**

= SUBMITTED BY =

**Mayuri pradiprao kshirsagar**

Shri Shivaji Education Society, Amravati's  
**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati - 444603 (M. S. )**

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"College with Potential for Excellence"

**Department of Environmental Science**



**Certificate**

*This is to certify that,*

*Mr. / Ms. Ku Mayuri pradiprao Kshirsagar.*

*with College Roll No. \_\_\_1885\_\_\_ Studying in the Class/Group \_3rd year(GEZ)*

*Semester \_\_\_6th\_\_\_ during academic Session 2020-2021 of this institute.*

*He/She has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.*

*Date: 04 / 08 / 2021*

*Signature of the Incharge*

*Head of the Department*



Conclusion :- From above Environmental literacy survey most of people knowing the exact meaning of environmental and they also know when the world environment day is celebrated and we concluded that people know that environment awareness is important and it is necessary to save the environmental but they don't know that perfect way to control it.

Reference :-

- 1) WWW.goggle.com
- 2) by previous question sets.
- 3) by previous research on it.

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## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

.....Nandini Vilas Lamate.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's  
**SHRI SHIVAJI SCIENCE COLLEGE,**  
Shivaji Nagar, Amravati – 444603 (M.S.)

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**Department of Environmental Science**



**CERTIFICATE**

This is to certify that,

Mr. / Ms. Nandini Vilas Lamate

with College Roll No. \_\_\_\_\_ Studying in the Class/Group CGB

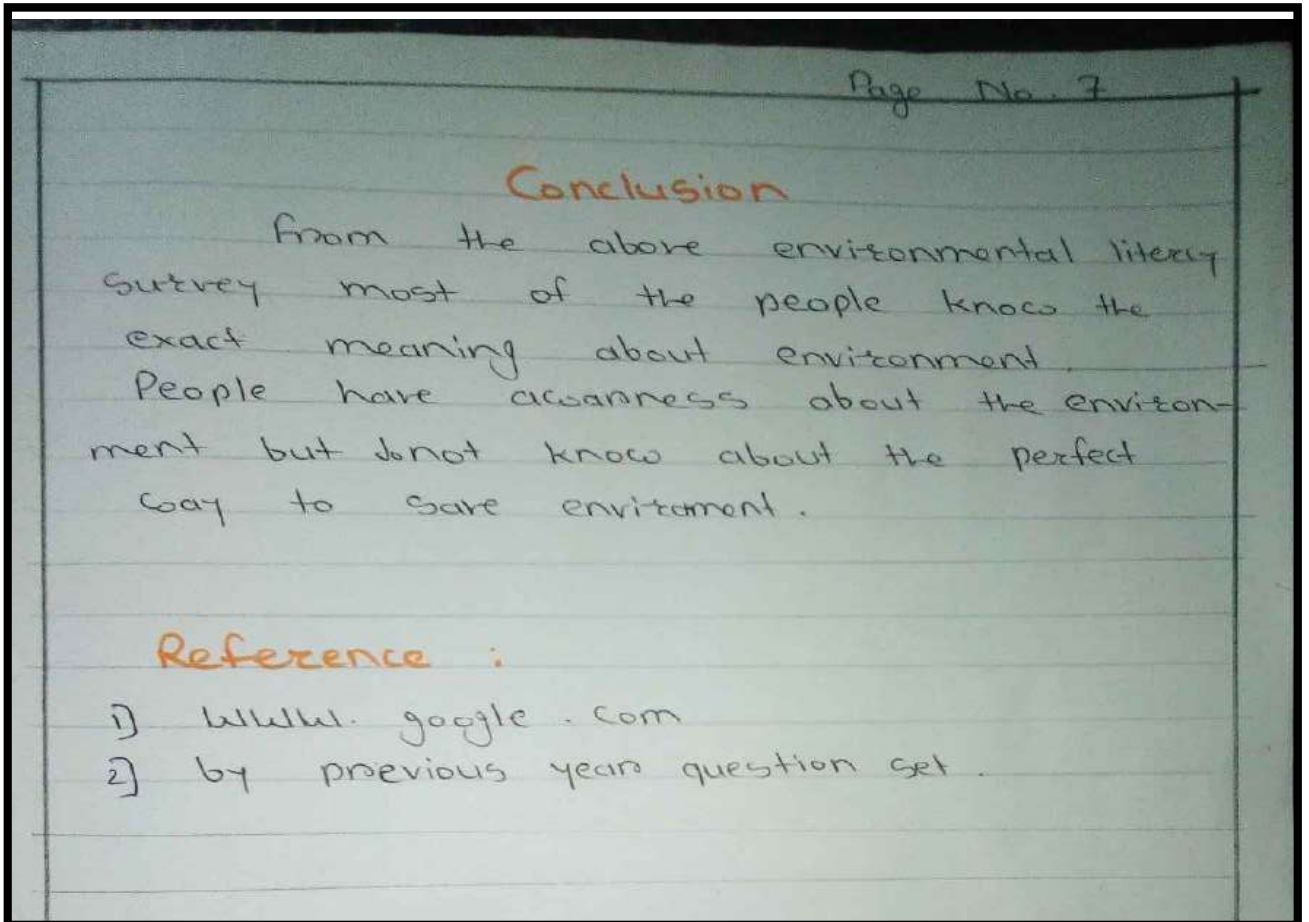
Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 4/8/2021

Signature of the Incharge

Head of the Department



Signature of the Manager \_\_\_\_\_ Head of the Department \_\_\_\_\_

# SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Prachi Suresh Rao Raut

.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
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### Department of Environmental Science



### Certificate

This is to certify that,

Mr. / Ms. Prachi Suresh Rao Raut \_\_\_\_\_

with College Roll No. \_\_\_\_\_ Studying in the Class/Group \_BSc 3rd yr.

(CEZ) \_\_\_\_\_ Semester \_\_6th\_\_ during academic Session 2020

-2021 of this institute. He/She has completed Environmental Literacy

Survey based on the Syllabus and given satisfactory account of it in

this project.

Date: 4 / 8 / 2021

## Conclusion:-

From the above environmental literacy survey most of people knowing the exact meaning of environment. And they also know when the world environment day is celebrate and we concluded that peoples know that environment awareness is important and it is necessary to save the environment but they don't know the perfect way to control it.

## Reference:-

1. WWW. Google.com
2. By Previous question bank.
3. And by Previous research on it.

*based on the Syllabus and given satisfactory account of it in this project.*

*Date: 4/ 8/2021*

*Signature of the Incharge*

*Head of the Department*

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati – 444603 (M.S.)**

*Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"*

**Department of Environmental Science**



**ENVIRONMENTAL LITERACY SURVEY REPORT**

**= SUBMITTED BY =**

**Renuka Vinod Wankhade**



**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2020-2021**

*Shri Shivaji Education Society, Amravati's*

**SHRI SHIVAJI SCIENCE COLLEGE,**

**Shivaji Nagar, Amravati – 444603 (M.S.)**

*Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"*

**Department of Environmental Science**



**Certificate**

*This is to certify that,*

*Mr. / Ms. \_\_\_\_\_ Renuka Vinod Wankhade*

*with College Roll No. \_\_\_\_\_ Studying in the Class/Group \_\_\_\_3rd year  
(CEZ) \_\_\_\_\_ Semester \_\_6\_\_\_\_ during academic Session 2020-2021  
of this institute. He/She has completed Environmental Literacy Survey*

### Conclusion:

From the above environmental literacy survey most of people knowing the exact meaning of environment. and they also know when the world environmental day is celebrated and we can conclude that peoples know that environment awareness is important and it is necessary to save the environment. but they don't know the proper perfect way to control it.

### Reference:

- 1) WWW. goggle .com
- 2) by previous question sets.
- 3) and by previous research on it.

# SHRI SHIVAJI SCIENCE COLLEGE,

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## Department of Environmental Science



### PROJECT REPORT

ON

NOISE LEVEL

.....

= SUBMITTED BY =

1) AJAY RAMESHRAO KOTHALE

2) ROSHAN SHESHRAO VAIDYA

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
“College with Potential for Excellence”

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. AJAY RAMESHRAO KOTHALE &

Mr. ROSHAN SHESHRAO VAIDYA

with College Roll No. \_\_\_\_\_ Studying in the Class/Group \_\_CEB\_\_

Semester IV during academic Session 2020-2021 of this institute. He/She has completed Project Work based on the Syllabus and given satisfactory account of it in this project.

Date: 04/ 08 /2021

Signature of the Incharge

Head of the Department

## Conclusion &

To reduce noise pollution several measures can be implemented such as proper maintenance of vehicles and roads, plantation of trees and electricity generator should be covered under silencer, traffic movements should be maintained or control effectively by traffic police and to aware the people about noise pollution.

## References:-

- 1) [www.google.com](http://www.google.com).
- 2) by previous question sets.
- 3) and by previous research unit.

# SHRI SHIVAJI SCIENCE COLLEGE,

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## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Vaishnavi Ramesh Deshmukh

Vivekanand Santosh Sawai

Vinay Ingole

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

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Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
“College with Potential for Excellence”

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Vivekanand Santosh Sawai

with College Roll No. \_\_\_\_\_ Studying in the Class/Group 3<sup>rd</sup> CEZ

Semester 6<sup>th</sup> during academic Session 2020-2021 of this institute. He/She  
has completed Project Work based on the Syllabus and given satisfactory  
account of it in this project.

Date: 03 / 08 /2021

Signature of the Incharge

Head of the Department

SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
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Department of Environmental Science



ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Vaishnavi Raikumar Thakare

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021



Shri Shivaji Education Society, Amravati's

# SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
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Department of Environmental Science



## Certificate

This is to certify that,

Mr. / Ms. Vaishnavi Raikumar Thakare

with College Roll No. 1840 Studying in the Class/Group B.Sc-III/CEB

Semester VI during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the  
Syllabus and given satisfactory account of it in this project.

Date: 2 / 8 / 2021

Signature of the Incharge

Head of the Department

### Conclusion :-

From the above environmental literacy survey most of people knowing the exact meaning of environment. and they also know when the world environment day is celebrated and we concluded that peoples know that environment awareness is important and it's necessary to save the environment. But they don't know the perfect way to control it.

### Reference :-

1. WWW . google . com
2. BY previous question sets
3. And by previous research on it.

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**Shivaji Nagar, Amravati – 444603 (M.S.)**

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**ENVIRONMENTAL LITERACY SURVEY REPORT**

= SUBMITTED BY =

VANSHIKA VINOD RATHOD

**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI**

**2020-2021**

Shri Shivaji Education Society, Amravati's

# SHRI SHIVAJI SCIENCE COLLEGE,

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### CERTIFICATE

This is to certify that,

Mr. / Ms. Vanshika Vinod Rathod

with College Roll No. 1837 Studying in the Class/Group BSc III / CEB

Semester VII during academic Session 2020-2021 of this institute.

He/She has completed Environmental Literacy Survey based on the Syllabus and given satisfactory account of it in this project.

Date: 31/7/2021

Signature of the Incharge

Head of the Department

### Conclusion :-

From the above environmental literacy survey most of people know the exact meaning of environment. and they also know when the world environment day is celebrated. and we concluded that people know that environment awareness is important and It is necessary to save the environment. but they don't know the perfect way to control it

### Reference :-

- W.W.W. google.com
- By research on it.
- By previous question set and project.

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Shivaji Nagar, Amravati – 444603 (M.S.)

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“College with Potential for Excellence”

## Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Vinay Anilrao Jagole

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

### Department of Environmental Science



### CERTIFICATE

This is to certify that,

Mr. / Ms. Vinay Anilrao Jagole

with College Roll No. \_\_\_\_\_ Studying in the Class/Group B.Sc.III - CEB

Semester 6<sup>th</sup> during academic Session 2020-2021 of this institute.

He/She has completed Project Work based on the Syllabus and given satisfactory account of it in this project.

Date: 3/8/2021

Signature of the Incharge

Head of the Department

**Result & analysis :-** In the environmental literacy survey in which it is conducted by our self by visiting personally to the 5 houses of our society and observe that most of people answering the answer as expected and we also observe that 100% people of any society are like to join environment organization. and they also like to participate in cycle rally or any green day. and also they like to transport publically and like to celebrate Karmaveer Festivals (Eco-Friendly).

**Conclusion :-** From the above environmental literacy survey most of people knowing the exact meaning of environment and they also know when the world environment day is celebrated and we concluded that people know that environment awareness is important and it is necessary to save the environment but they don't know the project way to control it.

**Reference :-**

- 1) [www.poggle.com](http://www.poggle.com)
- 2) news paper articles on environment
- 3) online blogs.



# SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

Department of Environmental Science



## ENVIRONMENTAL LITERACY SURVEY REPORT

= SUBMITTED BY =

Vrushali Balu Parise

.....

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

2020-2021

Shri Shivaji Education Society, Amravati's

## SHRI SHIVAJI SCIENCE COLLEGE,

Shivaji Nagar, Amravati – 444603 (M.S.)

Re-accredited by NAAC with A grade (Very Good) with a CGPA of 3.10  
"College with Potential for Excellence"

### Department of Environmental Science



### Certificate

This is to certify that,

Ms. XXXXXXXXXXXX Vrushali Balu Parise.

with College Roll No. 1836 Studying in the Class/Group Bsc 3rd(CEB)  
Semester VI during academic Session 2020-2021 of this institute. She  
has completed Environmental Literacy Survey based on the Syllabus and  
given satisfactory account of it in this project.

Date: 04 / 08 /2021

Signature of the Incharge

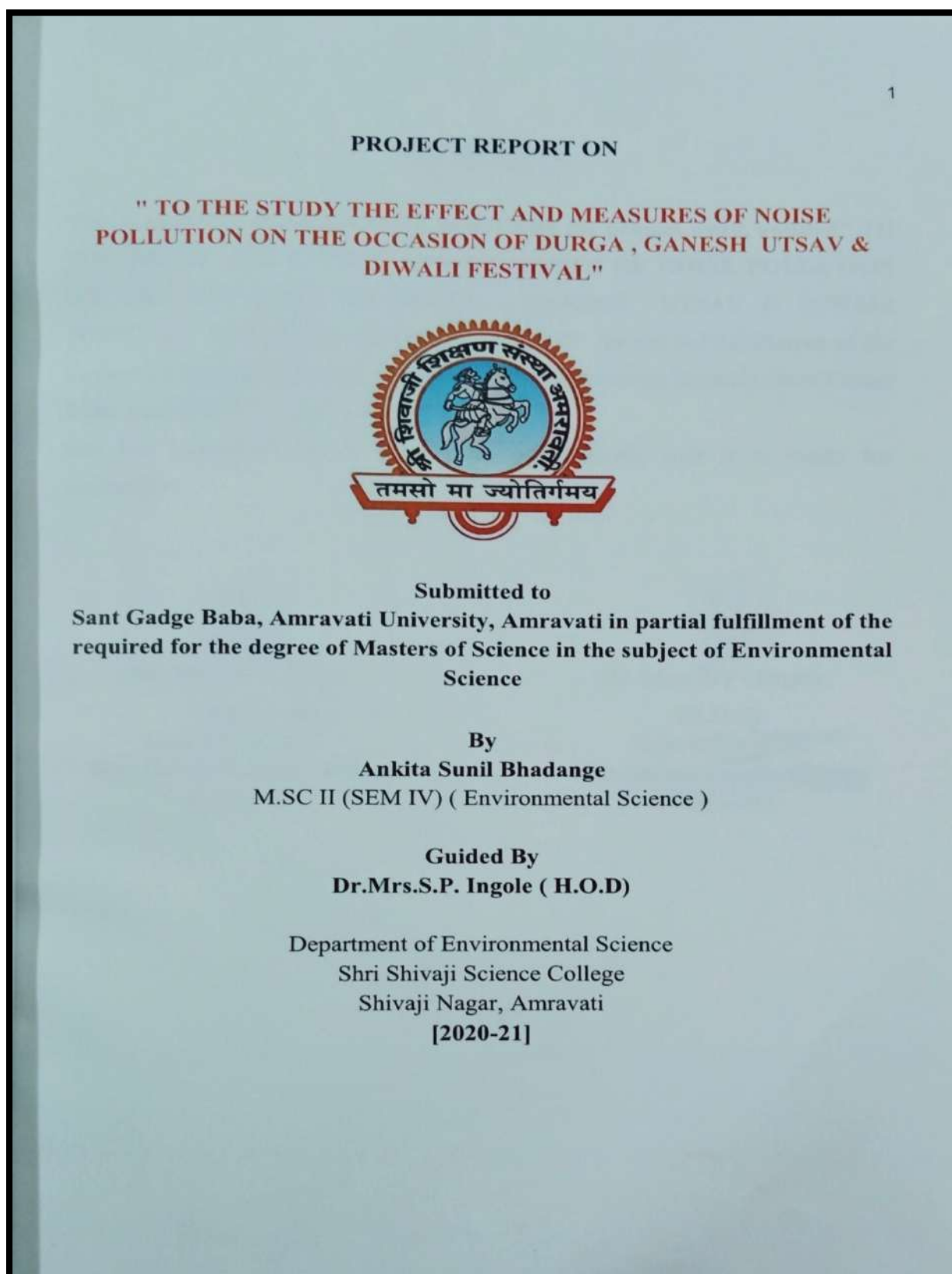
Head of the Department

**Department of Environmental Science**

List of Students under taking Project Work (PG)

S. No.	Name of the student
1	Ankita Bhadange
2	Chaitali Thakare
3	Kalyani Bhatkar
4	Mohini Konde
5	Chetan Satpute
6	Pratiksha <u>Vighe</u>
7	Pratiksha Wankhade
8	Priti <u>Wasukar</u>
9	Ruchita <u>Jumade</u>
10	Sakshi Deshmukh
11	Samiksha Bondre
12	Sourabh <u>Bijwe</u>
13	Shruti <u>Yawale</u>
14	Tejal Thakare
15	Tejaswini <u>Takarkhede</u>
16	Vaibhavi Kshirsagar
17	Yogita Thakare
18	Mr. Anup A. <u>Taywade</u>
19	Ms. Kirtika J. <u>Mohod</u>
20	Ms. Raksha M. Bokade
21	Ms. Sangita V. <u>Lawhale</u>
22	Ms. Snehal R. <u>Chondhe</u>
23	Ms. Perna N. <u>Hekade</u>

Title and Place of Work

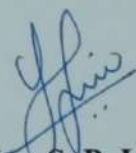


Project Work Completion

**CERTIFICATE**

This is to certify that I have been supervising the project work, entitled" TO THE STUDY THE EFFECT AND MEASURES OF NOISE POLLUTION ON THE OCCASION OF DURGA , GANESH UTSAV & DIWALI FESTIVAL" by ANKITA SUNIL BHADANGE for partial fulfillment of the Project of Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.



**Dr. Mrs. S. P. Ingole**

**( Supervisor)**

Dept. Of Env.Sci.

Shri. Shivaji Science College,  
Amravati.



**Dr. Mrs. S. P . Ingole**

**(H.O.D)**

Dept. Of Env.Sci.

Shri. Shivaji Science College  
Amravati.

## CHAPTER-VI

### Summary And Conclusion

The summary in which project of noise level monitoring at the different Crowded residential areas and Commercial Area carried out gives good idea that how to monitor at particular area. First I visited each area met formally and got permission to monitor at different places like, Home residency of that colony or Residential Area in city, main square in city, crowded areas in city. Then the readings were taken at different places as mentioned with the help of the digital noise level meter.

For the differentiation/comparison the zones were divided into two parts one is crowded Residential area and other is Commercial Area, We selected Seven zones monitored them. Finally the data collection was over, then it was manipulated into some statistical manner.

While monitoring noise pollution at crowded residential zone and Commercial zone we concluded that sound of DJ's or Home theatre and crackers should be minimize.

The elders and younger's psychology is very much fluctuating type so, a small noise can also disturb which ultimately affects the whole behavioral.

It urges the need of awareness among the community about the noise pollution and its impact on human being. By applying different control measures like mass media, legislative measures, and plantation near-by residencies and houses, will help to minimize the noise pollution.

From the present Investigation it was concluded that Noise level of Budhwara and Jaistambh (Commercial Area) are high as per Ambient Noise Standards. From the data it was also concluded that the L<sub>np</sub> was found to be high at Budhwara and Jaistambh So the Budhwara and Jaistambh Nagar require Noise barriers like wall around these areas or develop green zone by planting trees. In this work the emphasis is given to highlight the rising levels of noise as one of the urbanization impacts.

PROJECT REPORT ON  
“STUDY OF TERMITE MOUND WITH REFERENCE TO ECOLOGY”  
IN MALKHED RESERV FOREST AMRAVATI (M.S.)”



SUBMITTED TO

SANT GADGE BABA UNIVERSITY IN PARTIAL FULFILLMENT OF  
REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN THE SUBJECT  
OF ENVIRONMENTAL SCIENCE

By

Miss. Chaitali Nandkishor Thakare  
M.sc.- II -(sem-IV) (Environmental science)

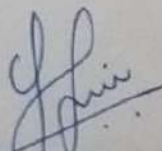
Guided By

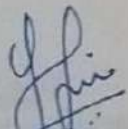
Dr. Mrs. S.P. Ingole (H.O.D)  
Department of Environmental Science  
Shri Shivaji Science College,  
Shivaji Nagar, Amravati  
(2020-2021)

CERTIFICATE

This is to certify that I have been supervising the project work entitled  
“STUDY OF TERMITE MOUND WITH REFERECE TO ECOLOGY” IN  
MALKHED RESERV FOREST AMRAVATI (M.S.). By Miss. Chaitali  
Nandkishor Thakare for partial fulfillment of degree of Master of Science,  
(Environmental Science), Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

  
Supervisor  
Dr. Mrs. S.P. Ingole

  
Head of Department  
Dr. Mrs. S.P. Ingole  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.



“STUDY OF TERMITE MOUND WITH REFERENCE TO ECOLOGY”  
IN MALKHED RESERV FOREST AMRAVATI (M.S.)

CHAPTER – V

DISCUSSION AND CONCLUSION

In the current study it was conceived that mound soil exceed in most of the analyzed selected physical soil; Bulk density, Moisture content, Porosity and chemical properties soil; pH, % OM, % TN, Ca, Mg, av. P and K than non-mound soil.

Physicochemical backup of mound soil was attributed by termites *Macrotermes*, and *Odontotermes* forages. From the current study it can be concluded that mound soil amends soil fertility than non-mound soil and allows effective maize growth performance, better maize growth and subsequent increase in yield/pot was obtained from mound soil mixed with As, NPK and NMS.

The use of NPK fertilizer on plots having termite mound is not recommended. However, further research is needed on how to use mound soil on large plot of land. Globally, biotechnology is seen as a fast developing and significant field of technology for its.

For the optimal utilization of termite mound materials for biotechnological purposes, there is a need for further and extensive research to exploit the metabolic capabilities of the bacteria present in termite mound soils, thereby uncovering their full potential.

Furthermore, to ensure a sustainable termite mound materials application in the future, research should also be carried out to improve factors that stimulate mound restoration by termites, as well as to improve materials as a worthy tool in the Bioremediation of heavy metals, the bio-filtering of gases, and biofuel production. Proficient part in health, food, and environmental sustainability. natural materials for biotechnological purposes, we therefore reviewed the potentiality of termite mound soil, they can serve as soil amendments.

It is concluded that naturally available termite mound soil could be used as a bulking material in the composting process. It is found to have more enzymes capable of degrading lignocellulose materials. Only limited studies have been conducted with termite mound soil used as a bulking material in the composting process. More studies are required on the feedstock selection and optimization of parameters to improve the quality of compost and reduce the composting duration while termite mound soil is incorporated. Thorough study is needed to explore, isolate and characterize the enzymes present in the termite mound soils. Further research is required to study the microbial diversity and nutrient content of the termite mound soil distributed in different regions.

A  
PROJECT REPORT  
ON  
STRATEGIC STUDY OF SOLID WASTE GENERATION  
AND MANAGEMENT OF AMRAVATI AREA DURING  
COVID-19 PANDEMIC



**Submitted To**

*Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of  
the requirement for the Degree of Masters of Science in the subject of  
Environmental Science.*

**\* Submitted By \***

**KU. KALYANI B. BHATKAR**  
M.SC. II (Sem – IV)

**\* Guided by \***

**MR. VIKRANT D. BUTE**  
Assistant Professor

**P.G. Department of Environmental Science**  
**Shri. Shivaji Science College, Shivaji Nagar, Amravati.**


**2020-21**

## CERTIFICATE

This is to certify that I have been supervising the project work entitled, **“STRATEGIC STUDY OF SOLID WASTE GENERATION AND MANAGEMENT OF AMRAVATI AREA DURING COVID 19 PANDEMIC”** of Ku. Kalyani B. Bhatkar for partial fulfillment of the Degree of Master of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.


She has completed her project work satisfactorily & it is ready for evaluation.

**Supervisor**

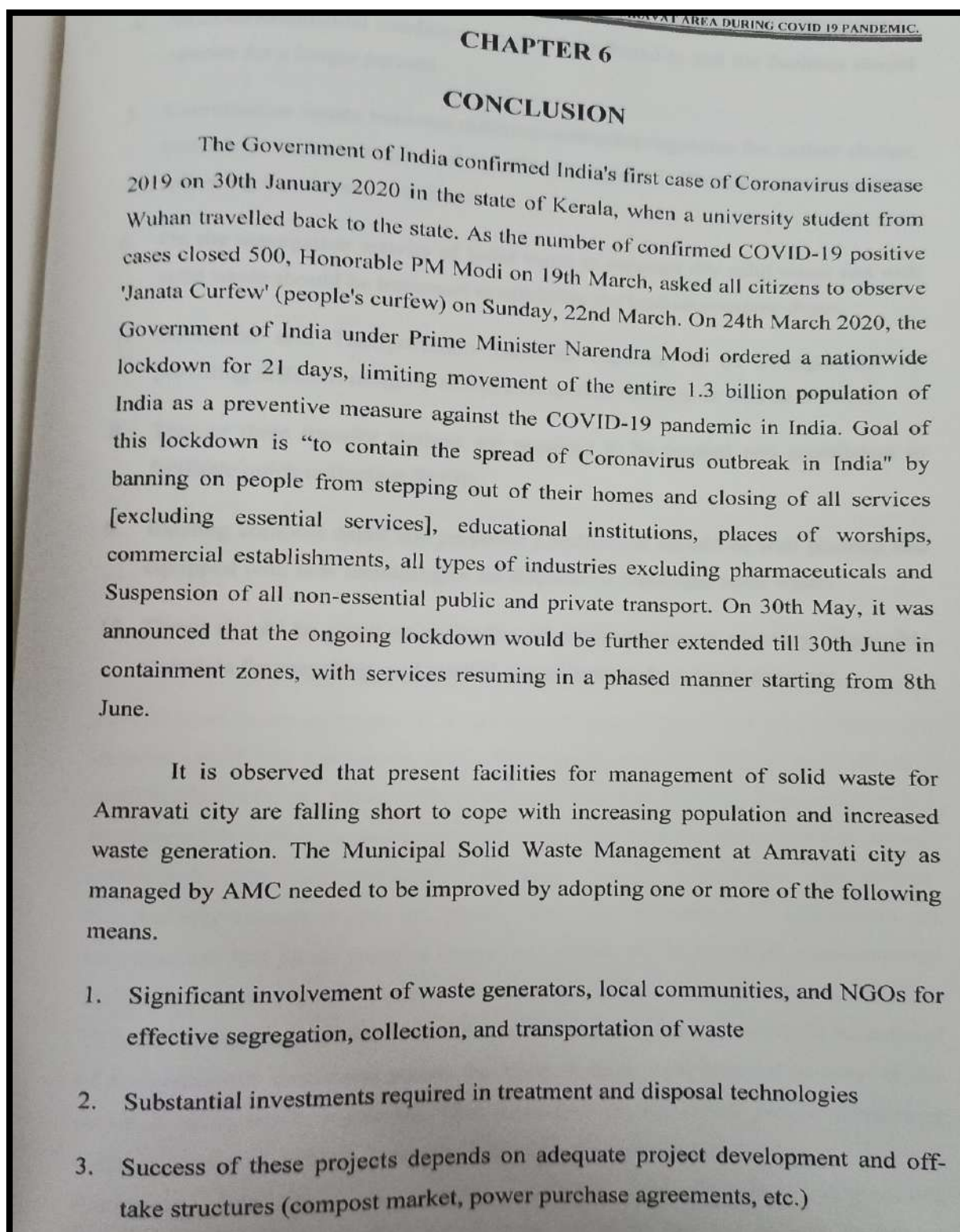


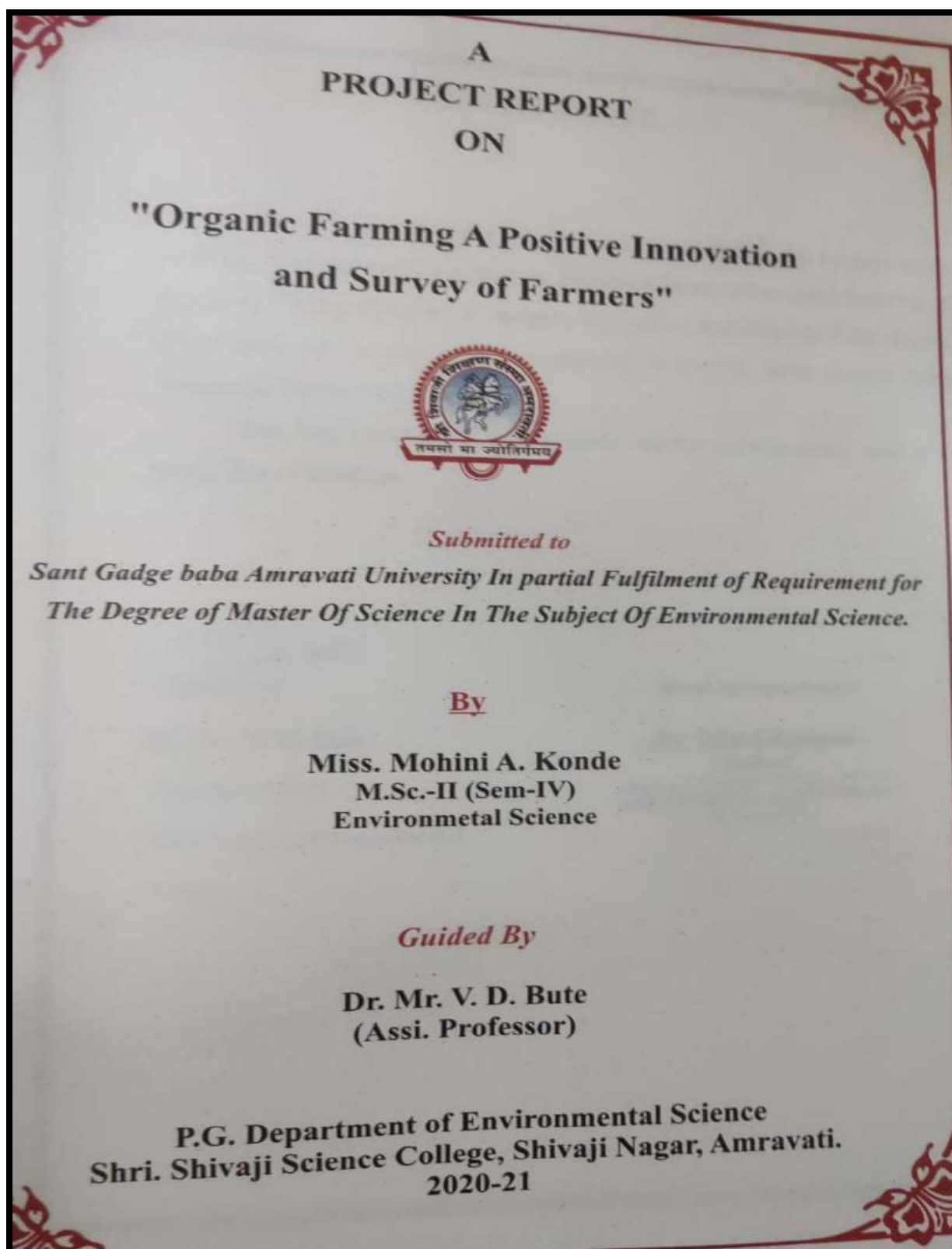
**Mr. Vikrant D. Bute**  
Asst. Prof.

**Head of Department**



**Dr. Mrs. S.P. Ingole**  
**Dr. S.P. Ingole**  
**Head**  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.





## CERTIFICATE

This is to certify that I have been supervising the project work entitled, “ **Organic Farming A Positive Innovation and Survey of farmers** "Miss Mohini A. Konde for partial fulfillment of the degree of Master of Science (Environmental Science), Sant Gadge baba Amravati University, Amravati.

She has completed her project works satisfactorily and it is ready for evaluation.

*V.D. Bute*  
*28-08-2021*

*Supervisor*

**Dr. Mr. V. D. Bute**

(Assistant. Prof)

Department of Environmental

Science

*S.P. Ingole*  
*Head of Department*

**Dr. Mrs. S.P. Ingole**

Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

## CHAPTER - VI CONCLUSION

The results of the study the value or percentage of physics -chemicals parameter, physicochemical study of soil is important to agricultural chemists for plant growth and soil management. The result of presents study will help to identify the type and degree of soil related problem and to suggest appropriate reclamation measure and also to find out suitability for growing crops. It will also help to study the soil genesis. Based on these study farmers can get approx idea about the amount of which fertilizers and nutrients needed to soil for increase the yield of crops.

Organic farming yields more nutrients and safe food. The popularity of organic food is growing dramatically as consumer seek the organic foods that are though to be healthier and safe thus organic Foodperhaps ensure food safety from farm to plate.

Organic farming otherwise called zero budget natural farming. The main moto of this is to compensate the cost of production of the main crop with the profits of secondary crop, without using any artificial chemicals fertilizer.

Chemical method correspond with those used in conversational farming. The primary target of organic farming is to promote soil type, and thus maintain the soil fertility. This implies that the physical, chemical parameter to be considered.

Organic farming is now -a-days on a broad scale as a key to economical and ecological sustainability in field of agriculture.

Some physical properties and good amount of organic matter in organic soil as compared to non -organic soil. In sample of non -organic soil there are some parameter which show minor quantity of nitrates, phosphate and potassium even it is essential for growth yields.

From all sampling station. In soil of organic and inorganic there are some parameter of potassium, nitrates, phosphate, pH which shows essential for the growth of crop and vegetables.

The study is useful for further research on the soil fertility and soil microorganism.

A  
PROJECT REPORT ON

" TO STUDY OF WEST WATER SYSTEM BY  
EFFLUENT TRETMENT PLANT"



Submitted to  
Sant Gadge Baba, Amravati University, Amravati in partial  
fulfillment of the required for the degree of Masters of Science in the  
subject of Environmental Science

By  
Mr. Chetan S. Satpute  
M.SC II (SEM IV) ( Environmental Science )

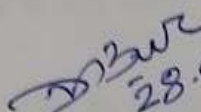
Guided By  
Mr.V.D. BUTE SIR

Department of Environmental Science  
Shri Shivaji Science College  
Shivaji Nagar, Amravati  
[2020-21]



## CERTIFICATE


This is to certify that I have been supervising the project work, entitled "TO STUDY WASTE WATER SYSTEM BY EFFLUENT TREATMENT PLANT" of Mr.Chetan S.Satpute for partial fulfillment of the Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati. He has completed her project work satisfactorily and it is ready for evaluation.

  
28.08.2021  
Mr.V.D. Bute

( Supervisor.)

Dept. Of Env.Sci.

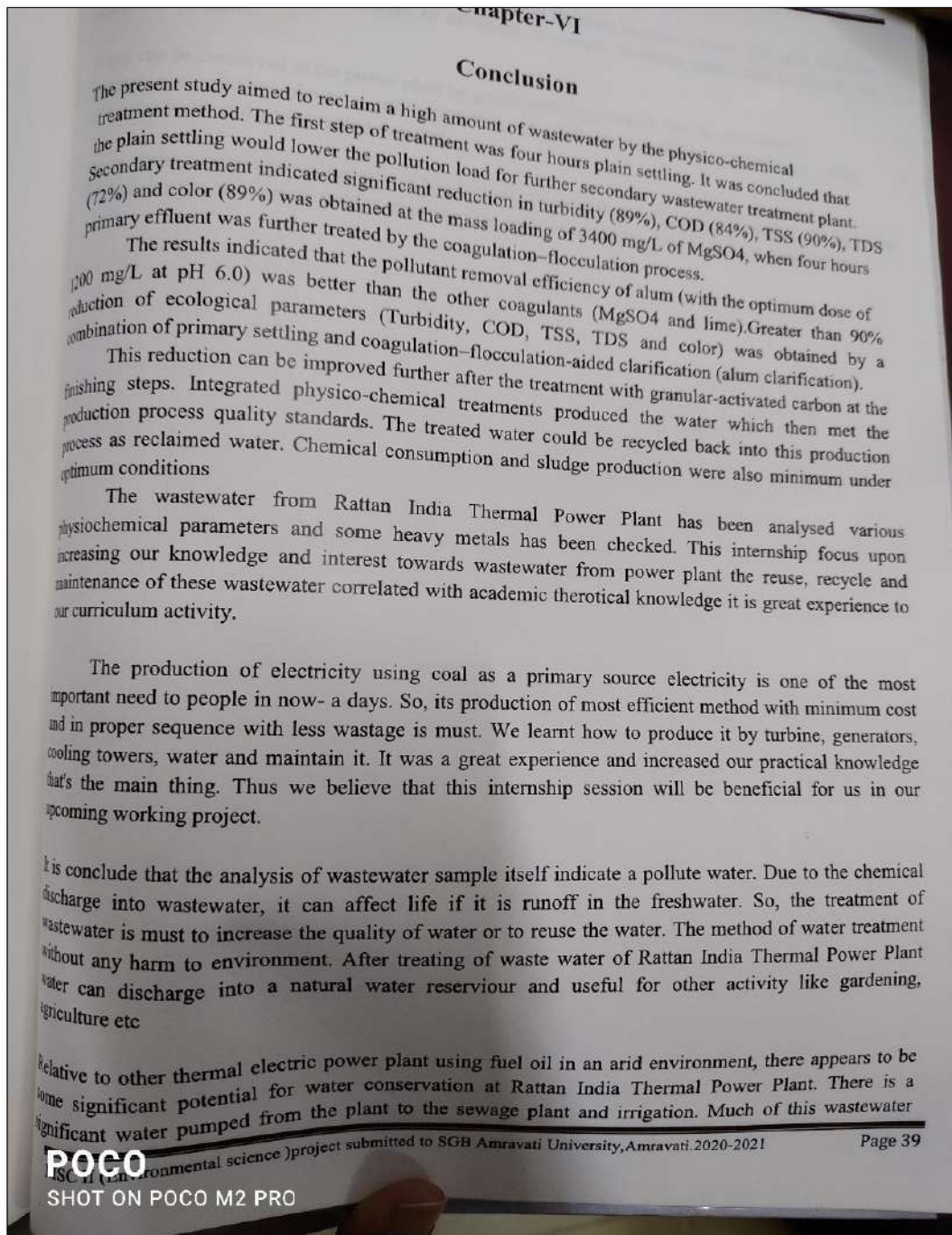
Shri. Shivaji Science College,  
Amravati.

  
Dr.Mrs.S.P . Ingole

(H.O.D)

Dept. Of Env.Sci.

Dr. Mrs. S.P. Ingole  
Head  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.



PROJECT REPORT ON

To Study the Drinking Water Supply System in Rural Area



Submitted to

Gadge Baba, Amravati University, Amravati in partial fulfillment of the requirement for the degree of master of science in the subject of Environmental science

By

Pratiksha G. Vighe  
M.sc.II (sem-IV)  
Environmental Science

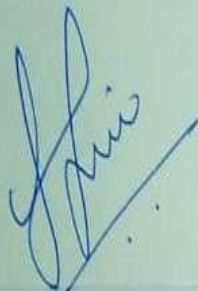
Guided By

Dr. Mrs S. P. Ingole (H.O.D)

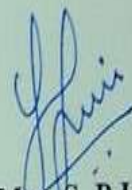
P.G. Department of Environmental Science  
Shri Shivaji Science college, Shivaji Nagar, Amravati  
[2020-21]

## CERTIFICATE

This is to certify that I have been supervising the project work guided "To study the drinking water supply system in rural areas" for partial fulfillment of the degree of master science (Environmental Science). Sant Gadge Baba University, Amravati, she completed his project work satisfactorily and it is ready for evaluation



Dr. Mrs. S.P Ingole  
(Supervisor)  
Department of Environmental Science



Dr. Mrs. S.P Ingole  
(H. O. D)  
Department of Environmental  
Science  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

## Chapter No-5

### conclusion

This project is mainly focused on rural water supply systems and different types of water supply. Also we have tried to study water samples in villages and detect the quality of water. We have studied different sources of water supply and quantity of water supplied to each house per day. Mainly there are 30 different types of water sources available in villages as of now three types of sources

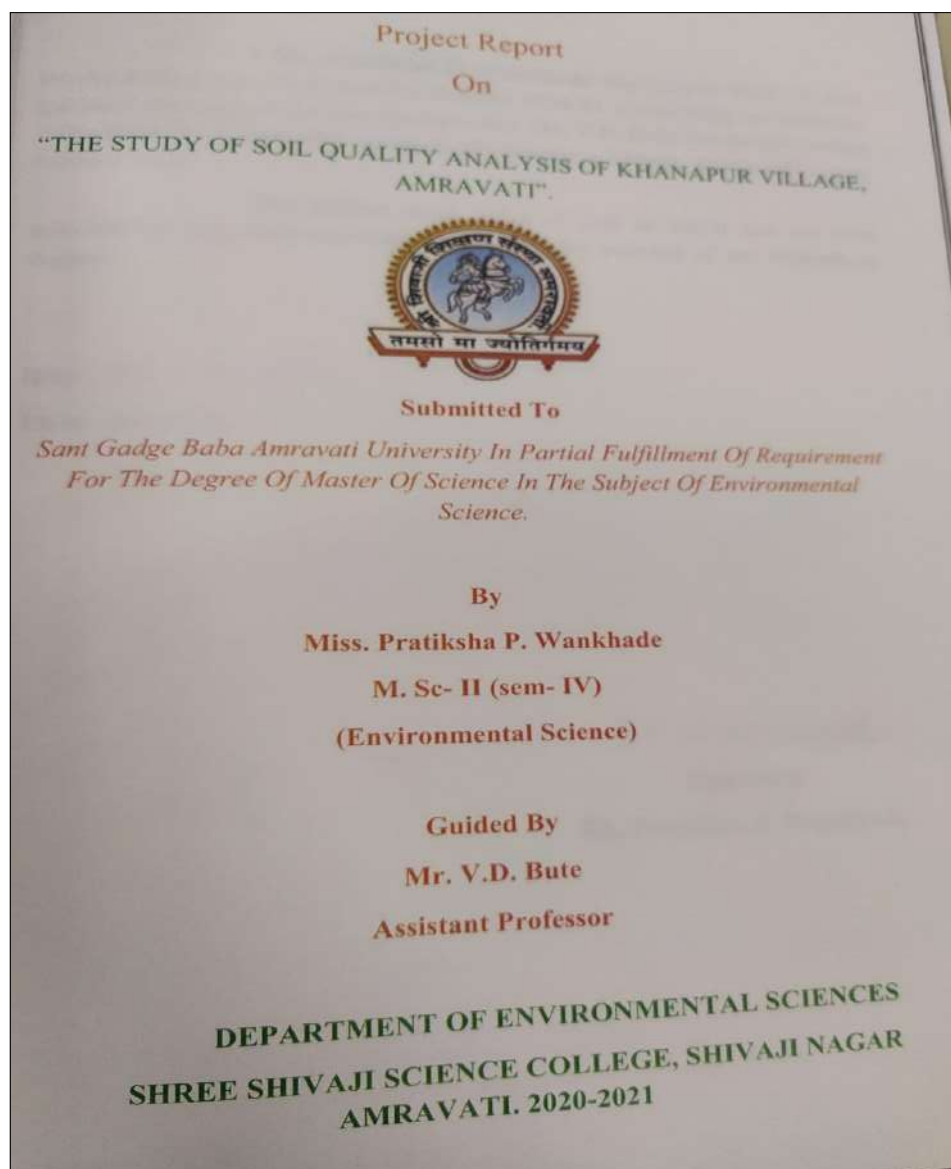
- 1) Dam water supply system
- 2) well water supply system
- 3) Borewell water supply system

The water from Purna river gets purified through various processes so that it can be used for drinking purposes and eventually it fulfills the purified drinking water demand.

Total capacity dam water is more than 35,370 km<sup>3</sup> (8,490 cumm) Day by day the well water is getting more and more polluted because of the poor sewage system. The capacity of well water is 1.5 gallon. But this water is mostly used for agriculture and construction purposes. This is because the water in the well is very muddy.

Also, sometimes the water pipelines get ruptured due to various problems and it leads to artificial drinking water scarcity.

I am happy to share some of the photos which will give a brief idea about water system facilities in villages and show the difference between old and new water supply systems.



**CERTIFICATE**

This is to certify that I have been supervising the project work, entitled "TO THE STUDY OF SOIL QUALITY ANALYSIS OF KHANAPUR VILLAGE, AMRAVATI".

For partial fulfillment of the Degree of Master of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati. She completed her project work satisfactorily and it is ready for evaluation.

Date: 28-8-2021

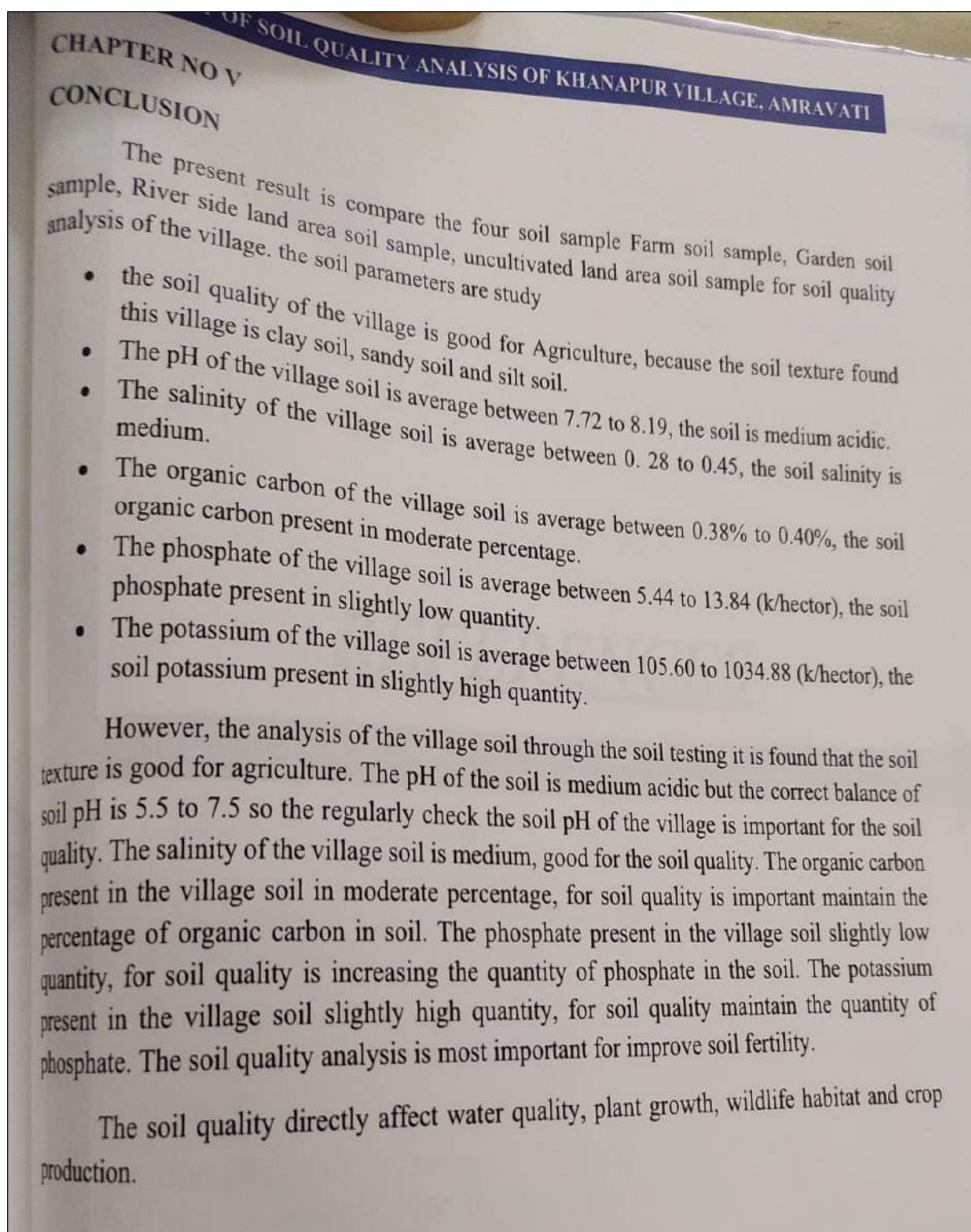
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*Bute*  
28-08-2021  
Signature

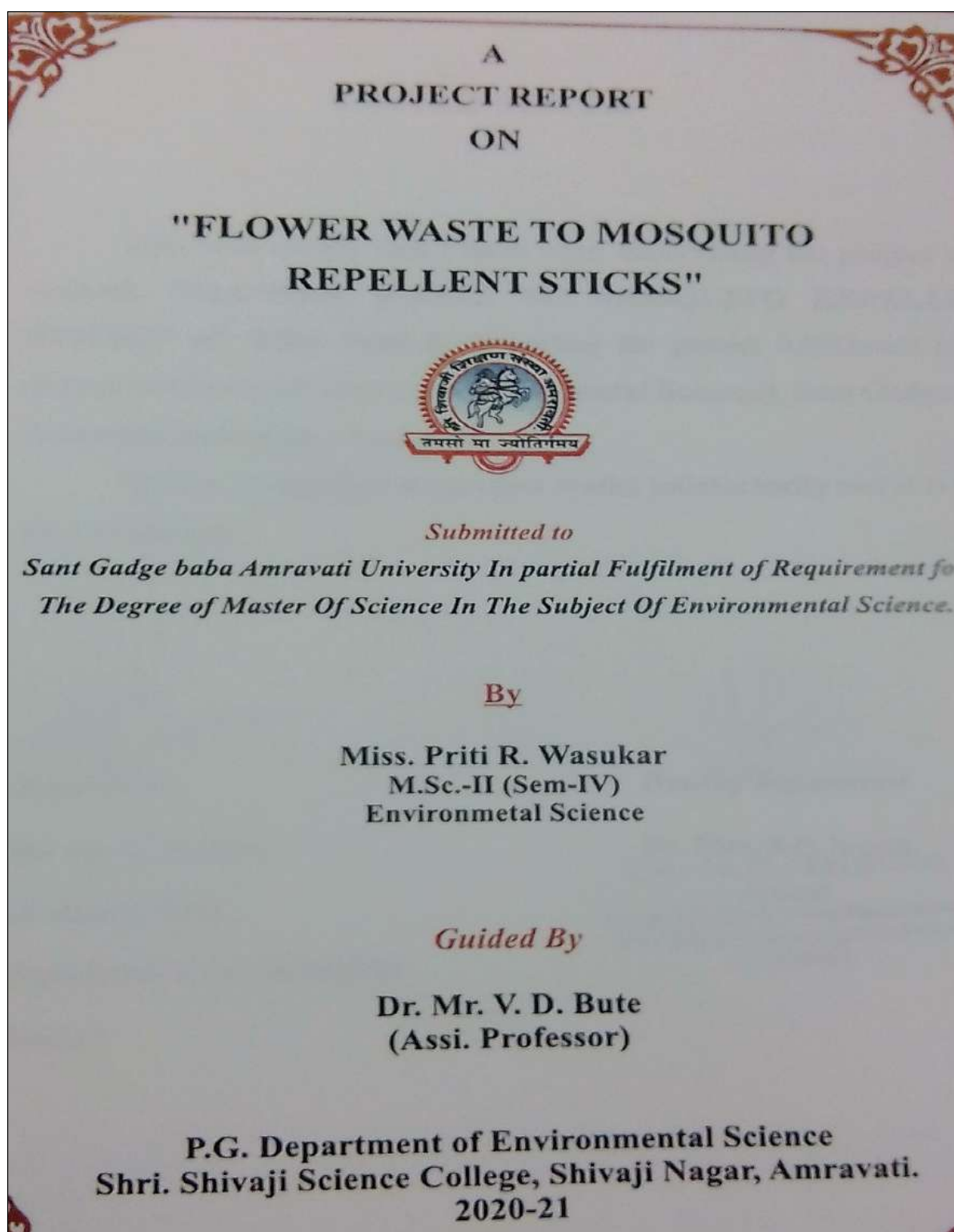
Mr. V.D. Bute  
(Supervisor)

*Ingole*  
Signature

Dr. Mrs. S.P. Ingole  
Dr. S.P. Ingole  
(H.O.D)  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.



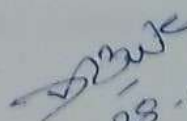




## CERTIFICATE

This is to certify that I have been supervising the project work entitled, “**FLOWER WASTE TO MOSQUITO REPELLENT STICKS**” of **Miss Priti S. Wasukar** for partial fulfillment of the degree of Master of Science (Environmental Science), Sant Gadge baba Amravati University, Amravati.

She has completed her project works satisfactorily and it is ready for evaluation.


  
28-03-2021  
**Supervisor**

**Dr. Mr. V. D. Bute**

(Assistant. Prof)

Department of Environmental

Science

  
**Head of Department**

**Dr. Mrs. S.P. Ingole**

**Dr. S.P. Ingole**

**Head**

Dept. Of Environmental Science

Shri Shivaji Science College,

Amravati.

## CHAPTER – V

### SUMMARY AND CONCLUSION

The mosquito repellent activity was performed by using the marigold flowers and leaves based on its larvicidal activity. In future this study will help is for the good natural mosquito repellent. The volume of smoke exhibited by the mosquito repellent sticks shown successful result and its explains that natural insecticidal preparations are always effective than synthetic.

Thus the exhaustive review of various methods of utilizing temple waste for one or the other useful product like vermicompost, biogas, dyes, incense sticks, concrete aggregate replacement etc. Suggest that the temple waste can not only be disposed safely in an environmental friendly manner but can also be utilized for making diversified product.

This study will management since the waste will neither be land filled nor burnt but would be used as a resource that will be recycled. It will throw light on reducing volume of temple waste which would eventually generate additional revenues for temples. Flower waste utilization would eventually be beneficial to the society as people would get to live in cleaner and a healthier environment.

The “GREEN TEMPLE CONCEPT” can prove to be helpful in government policy formulation for waste management and in promoting sustainable. Development approach towards temples.

PROJECT REPORT ON  
ENVIRONMENTAL LITERACY SURVEY



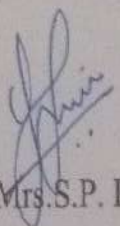
Submitted to Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of the requirements for the degree of master of science in the subject of  
Environmental science

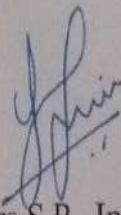
By  
**Ruchita Arvind Jumade**  
M.sc.II(SEM IV) (Environmental Science)  
Guided By  
**Miss. S. P. Ingole (H.O.D)**

Department of Environmental Science  
Shri shivaji Science college,  
Shivaji Nagar, Amravati  
[2021-22]

### CERTIFICATE

This is to certify that the project entitled "ENVIRONMENTAL LITERACY SURVEY" has been completed by Miss Ruchita Arvind Jumade for partial fulfillment of the degree of Master Of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.  
She has completed her project work satisfactorily and it is ready for evaluation.

  
Dr. Mrs. S.P. Ingole  
( Supervisor)  
Dept. Of Env. Sci.  
Shri. Shivaji Science College,  
Amravati.

  
Dr. Mrs. S.P. Ingole  
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Amravati.

## CHAPTER-V (CONCLUSION)

### Result and Conclusion

In this section data is collected from the survey through questionnaire administration were organized, analyzed and interpreted in accordance with the methods and procedures outlined above. Results were discussed and recommendations were drawn. However the study is heavily primary data, except in the introductory and literature review aspect of research work. However a total 30 questionnaires were administered and all were successfully retrieved. The questionnaire contains some general awareness questions which help to know the environmental awareness among the people. In the present study the targeted population consists of some surrounding people.

**"Production of Biomass Briquettes From Waste"**

**A Project Report**



Submitted to

*Department of Environmental Science Sant Gadge Baba For Partial Fulfillment of  
MSc.Environmental Science Degree Amravati university*

**Ms. Sakshi S.Deshmukh**  
Msc.II year  
(Environmental science)

*Under The Supervision Of*

**Mr.Dr.Vikrant Bute**  
(Supervisor)

**Mrs.Dr.S.P.Ingole (H.O.D)**  
Department Of Environmental Science,  
Shree.Shivaji Science College,  
Amravati

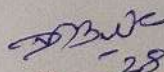
**Session Summer 20-2021**

**CERTIFICATE**

This is to certify that I have been supervising the project work, entitled "**Production Of Biomass Briquettes From Waste**" by **Miss. Sakshi S. Deshmukh** for partial fulfillment of the Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.

**Date :**

**Place: Amravati.**

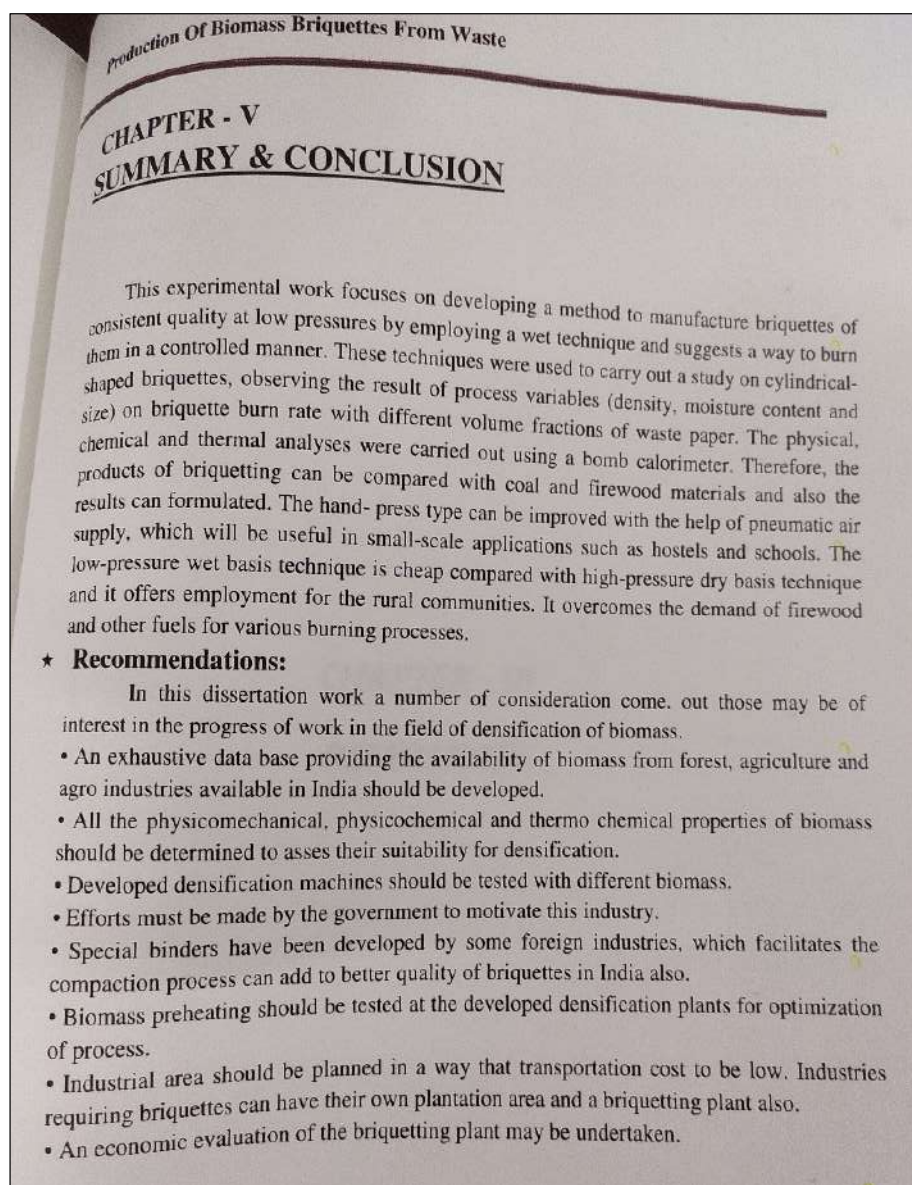
  
-28.08.2024  
**Signature**

**Dr. Vikrant Bute**  
(Supervisor)

  
**Signature**

**Dr. Mrs. S.P. Ingole**  
**Dr. S.P. Ingole**  
(H.O.D.)  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.





**A Project on**

**“Identification of Groundwater Recharge Structure Site Of Amravati Taluka Pedhi River Using GIS and Remote Sensing Techniques”**



**A Thesis submitted to**

**SANTGADGE BABA AMRAVATI UNIVERSITY, AMRAVATI-  
444601**

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

**MASTER OF SCIENCE  
(ENVIRONMENTAL SCIENCE)**

**By**

**Miss. Samiksha S. Bondre**  
M.Sc. II<sup>nd</sup> Year,  
Department of Environmental Science

**Under the guidance of**

**Dr. K. J. Gawai**

**DEPARTMENT OF ENVIRONMENTAL SCIENCES SHRISHIVA  
J SCIENCE COLLEGE, SHIVAJINAGAR, AMRAVATI  
YEAR 2020-2021**

## CERTIFICATE

This is to certify that I have been supervising the project work entitled, "Identification of ground water recharge structure site of Amravati taluka Pedhi River using GIS and Remote Sensing" of Miss, Samiksha S. Bondre for partial fulfillment of the degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, and Amravati.

She has completed her project work satisfactorily and it is ready for Evaluation.

Date:- 28-08-2021

Place:- Amravati



Supervisor

Dr. K. J. Gawai

Dept. of environmental science



Head

Dr. Mrs. S. P. Ingole

Dept. of environmental science

Shri Shivaji Science College,

Head  
Dept. of Environmental Science  
Shri Shivaji Science College,  
Amravati.

### CONCLUSION:-

After the analysis following conclusions were drawn,

- 1) The average annual rainfall in that region is approximately 857.4 mm. by this rainfall amount of water collected within the taluka boundary was 974490 million liters.
- 2) From the study of land use and land cover map it was found that the ratio of barren land to agriculture land is unity and area contributed by water bodies is negligibly small of total area. a] Road b] Residential area c] Agricultural/vegetation d] River e] Open space.
- 3) About three types of soil are found in Amravati District and type second and seventh have dominant area extent.
- 4) From study of geology it is shown that only two types of rocks are found in the area. first is basalt and second is alluvial but basalt rock formation is major. a) Basalt area. b) Alluvial area.
- 5) From elevation study the highest elevated point is at 359m level and lowest point is 274 m above mean sea level.
- 6) The thematic maps of geology, geomorphology, soil, slope, land use/land cover and soil were considered for identifying groundwater potential zones are classified as excellent, good, moderate and poor.

**PROJECT REPORT ON -  
WATER QUALITY EVALUATION OF BOR DAM,  
AMRAVATI**



**Submitted to Sant Gadge Baba Amravati University,  
Amravati in partial fulfillment of the requirements for  
the Degree of Master of Science in the subject of  
Environmental Science**

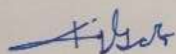
**By  
Mr. Saurabh K. Bijwe  
M.sc.II Sem-IV (Environmental Science)**

**Guided By  
Dr. K. J. Gawai  
(Assistant Professor)  
Department of Environmental Science  
Shri Shivaji Science college,  
Shivaji Nagar, Amravati  
[2021-22]**

## CERTIFICATE

This is to certify that I have been supervising the project work entitled, '**Water Quality Evaluation of Bor Dam, Amravati**' of **Mr Saurabh K. Bijwe** for partial fulfillment of the degree of Master of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.

He has completed his project work satisfactorily and it is ready for evaluation.




*Supervisor*

**Dr. Mr. K.J. Gawai**

(Assistant Professor)

Department of Environmental

Science.



*Head of Department*

**Dr. Mrs. S.P. Ingole**

**Dr. S.P. Ingole**

**Head**

**Dept. Of Environmental Science**

**Shri Shivaji Science College,  
Amravati.**

## Water Quality Analysis of Bor Dam

**Conclusion and Result**

- The results from data analysis show that, the water is certainly unfit for drinking purposes without any form of treatment, but for various other surface water usage purposes, it still could be considered quite acceptable. But as we know, once a trend in pollution sets in, it generally accelerates to cause greater deterioration. So few years from now, serious water quality deterioration could take place. However, there could be gross differences in the test results of some samples at different laboratories in the country, which could limit the use of these data for sensitive policy issues. The differences might be attributed to the approach adopted by laboratories in sample preservation, quality of chemicals used, testing method applied or qualification or expertise of the technicians or test performers. This study involves determination of physical, biological and chemical parameters of surface water at different points.
- Taste and Odor in water may be found in variety of conditions. Sources or the reasons behind this odor are manmade or natural in nature. Algae and decaying material are the important sources of odor which are natural sources. The most hazardous conditions are commonly made by manmade sources. In the decaying processes, by products produced caused odor and also stimulate the growth of other organisms which are capable of forming odor.
- The water was found slightly basic. The results confirmed that the presence of secondary minerals tends to increase the sample's electrical conductivity and pH value.
- Agricultural and residential runoff are primary sources for TDS in receiving waters, and so are leaching of soil contamination and point source water pollution discharge from industrial plants. Calcium, phosphates, nitrates, sodium, potassium, sulphates and chloride comprise few of the important chemical constituents. TDS was found to be below the maximum permissible limit which shows the concentration of the dissolved cations and anions.
- In rivers the primary cause of turbidity is the presence of soil sediments. Fine clay and slit, fine organic and inorganic matter and soluble coloured compounds are contributors to the turbidity. Turbidity refers to the amount of suspended solid particles in water body. Turbidity was found to be 0.02 NTU of the water sample.

**A Project on**

**“To Identify The Utility Prospects Of Smart City In Amravati City Using GIS And Remote Sensing Data”**



**A Thesis submitted to**

**SANTGADGEBABAAMRAVATIUNIVERSITY,AMRAVATI  
-444601**

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

**MASTER OF SCIENCE  
(ENVIRONMENTAL SCIENCE)**

**By**

**Miss. Shruti R. Yawale**

M.Sc. II<sup>nd</sup> Year,  
Department of Environmental Science

**Under the guidance of**

**Dr. K. J. Gawai**

**DEPARTMENT OF ENVIRONMENTAL SCIENCES SHRISHIV  
AJI SCIENCE COLLEGE, SHIVAJINAGAR, AMRAVATI  
YEAR 2020-2021**



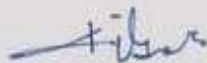
## CERTIFICATE

This is to certify that I have been supervising the project work entitled, "TO IDENTIFY THE UTILITY PROSPECT OF SMART CITY IN AMRAVATI CITY USING GIS AND REMOTE SENSING DATA" of Miss. Shruti R. Yawale for partial fulfillment of the degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, and Amravati.

She has completed her project work satisfactorily and it is ready for Evaluation.

Date:- 28/8/2021

Place:-Amravati



Supervisor

**Dr. K. J. Gawai**

Dept. of environmental science



Head

**Dr. Mrs.S. P. Ingole**

Dept. of environmental science

Shri Shivaji Science College,

Head  
Dept. of Environmental Science  
Shri Shivaji Science College,  
Amravati.

### CONCLUSION:-

After the analysis following conclusions were drawn,

1) From the study of land use and land cover map it was found that the ratio of barren land to agriculture land is unity and area contributed by water bodies is negligibly small of total area. a) Road b) Residential area c) Agricultural/vegetation d) River e) Open space.

2) From elevation study the highest elevated point is at 359m level and lowest point is 274 m above mean sea level.

### SUGGESIONS:


The following suggestions are useful for solving the water problems of the village and to satisfy the water demands in draught condition. As we concluded from the results that the water bodies' area in the taluka is nearly negligible and the irrigation projects have a reach of only about 5% area.

So therefore a major part of cultivators are dependent on rain and a ground water as their primary irrigation source. It was also observed that majority of drainage network ran dry throughout the year except monsoon.

Thus, citing the drought conditions the main attention should be to increase the ground water recharge. This can be achieve by construction and maintainace of new and present water conservation structures like bandanas, check dams, gabions, cct's, seepage basins, roof water and rainwater harvesting, watershed management, etc. on the drainage lines in southern part of the taluka which falls under negligible to gentle slopping land.

A  
PROJECT REPORT  
ON

**"Study and Review on flower Waste Management"**



*Submitted to*  
**Sant Gadge baba Amravati University In partial Fulfilment of Requirement for  
The Degree of Master Of Science In The Subject Of Environmental Science.**

**By**  
**Miss. Tejal P. Thakare**  
**M.Sc.-II (Sem-IV)**  
**Environmetal Science**

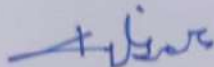
*Guided By*  
**Dr. Mr. K. J. Gawai**  
**(Assi. Professor)**

**P.G. Department of Environmental Science**  
**Shri. Shivaji Science College, Shivaji Nagar, Amravati.**  
**2020-21**

## CERTIFICATE

This is to certify that I have been supervising the project work entitled, “ **Study and Review on flower Waste Management**” of **Miss Tejal P. Thakare** for partial fulfillment of the degree of Master of Science (Environmental Science), Sant Gadge baba Amravati University, Amravati.

She has completed her project works satisfactorily and it is ready for evaluation.

  
*Supervisor*

**Dr. M.F. K.J. Gawai**

(Assistant. Prof)

Department of Environmental

Science

  
*Head of Department*

**Dr. Mrs. S.P. Ingole**

**Dr. S.P. Ingole**  
**Head**  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

## Chapter-5

### CONCLUSION

Temple waste flowers make significant environmental and human health impacts. Flowers are an essential component of our idolatry. But their disposal poses a phenomenal hazard to the environment. Because the floral offerings are considered sacred, they are not discarded when wilted in the trash bins, but are usually thrown into local water bodies or rivers, polluting water and causing irreversible environmental damage. Floral waste can be converted to a variety of value-added products such as pigments, incense sticks, activated charcoal, food products, sugar syrup, compost, biofuels, biogas, bioethanol, handmade paper, etc. which have a variety of use.

While many prominent places of worship lead by example, they still need to take a lesson from the smaller memorials and floral pollution is constantly increasing. All the habitats and places of worship in the whole country must be part of the mission. The dumping process must be managed with flexibility and strict implementation of the applicable legislation.

State governments need to play a big role in raising awareness about the minor temples on this issue and state governments should create innovative programs in different districts to collect and reuse floral waste from different sanctuaries, which will go a long way towards improving the local economy by generating jobs and making by-products worthy of the market. The floral offerings in our prayers will have a sense if we should protect them and use them wisely to improve our lives, beautify our world and create a better tomorrow.

A Project Report On  
**SURVEY OF THE ENVIRONMENTAL AWARENESS AND SOLID WASTE  
MANAGEMENT PRACTICE IN SHENDURJANA GHAT, DIST AMRAVATI**



Submitted to  
Sant Gadge Baba Amravati University, Amravati in partial fulfilment of  
the requirement for the degree of M.Sc.  
(Environmental Science)

Submitted by  
**Ku. Tejaswini P. Takarkhede**  
M.Sc.II (Environmental Science)

Guided by  
Mr. V.M. Bute  
(Assistant Professor)  
Shri Shivaji Science College Amravati

P.G. Department of Environmental Science  
Shri Shivaji Science College Amravati  
Shivaji Nagar, Amravati

[2021]

**CERTIFICATE**

This is to certify that I have been supervising the project work, entitled "SURVEY OF THE ENVIRONMENTAL AWARENESS AND SOLID WASTE MANAGEMENT PRACTICE IN SHENDURJANA GHAT, DIST AMRAVATI" for partial fulfilment of the degree of master in science (environmental science) Sant gadge baba Amravati university . She completed her project work satisfactorily and it is ready for examination.

*V. Bute*  
28.03.2021

Mr. V. Bute

(Asst. prof.)

P.G.Dept. of Env. Sci.

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*S.P. Ingole*

Dr. S.P. Ingole

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Dr. S.P. Ingole  
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Head  
Dept. of Environmental Science  
Shri Shivaji Science College,  
Amravati.

A  
PROJECT REPORT  
ON  
ASSESSMENT OF PLASTIC WASTE GENERATION OF  
AMRAVATI CITY DURING COVID 19 PANDEMIC.



Submitted To  
*Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of  
the requirement for the Degree of Masters of Science in the subject of  
Environmental Science.*

**\* Submitted By \***

**KU. VAIBHAVI M. KSHIRSAGAR**

**M.SC. II (Sem – IV)**

**\* Guided by \***

**MR. VIKRANT D. BUTE**

**Assistant Professor**

**P.G. Department of Environmental Science  
Shri. Shivaji Science College, Shivaji Nagar, Amravati.**

**2020-21**

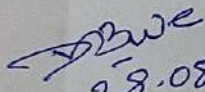


**CERTIFICATE**

This is to certify that I have been supervising the project work entitled, “ASSESSMENT OF PLASTIC WASTE GENERATION IN AMRAVATI CITY DURING COVID 19 PANDEMIC” of Ku. Vaibhavi M. Kshirsagar for partial fulfillment of the Degree of Master of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.


She has completed her project work satisfactorily & it is ready for evaluation.

**Supervisor**

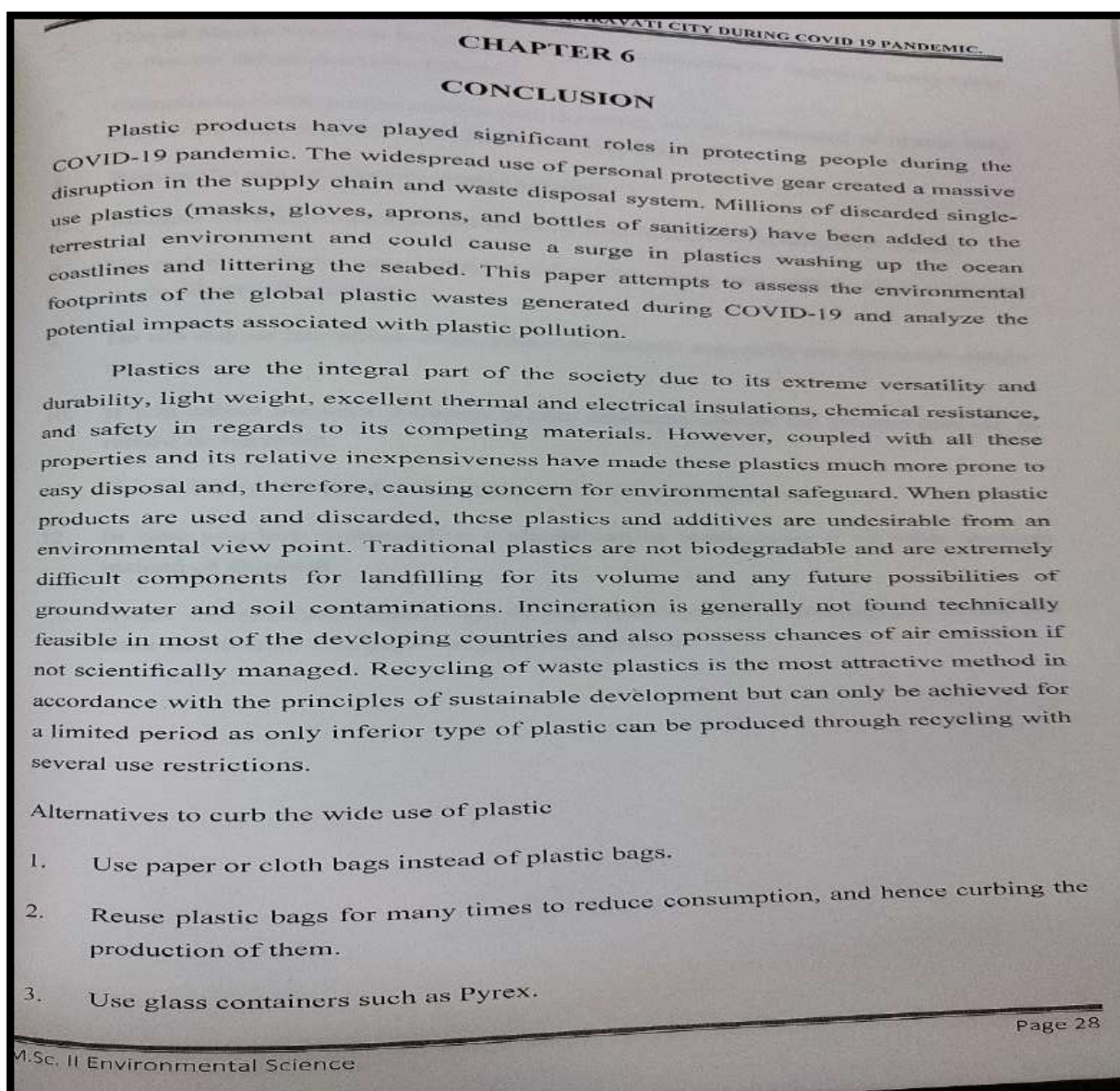
  
28.08.2021

**Mr. Vikrant D. Bute**  
Asst. Prof.

**Head of Department**

  
**Dr. Mrs. S. P. Ingole**  
**Dr. S.P. Ingole**  
**Head**

Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.



A  
PROJECT REPORT

ON

"A Study Survey on Food Waste Management"



Submitted to

*Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of the requirements for the degree of master of science in the subject of Environmental science*

By

Miss.Yogita. K .Thakare  
M.Sc-II (Sem-IV)  
Environmental Science

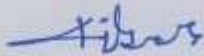
Guided By

Dr. Mr. K. J. Gawai  
Lecturer

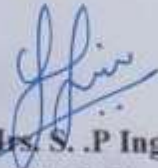
**P.G. Department of Environmental Science  
Shri Shivaji Science college, Shivaji Nagar, Amravati  
[2020-21]**

## CERTIFICATE

This is to certify that I have been supervising the project work entitled, "A Study Survey On Food Waste Management" for partial fulfillment of the degree of master science (Environmental Science). Sant Gadge Baba University, Amravati, she completed his project work satisfactorily and it is ready for evaluation



Dr. ~~M~~. K. G. Gawai  
(Assistant Professor)  
Department of Environmental  
Science



Dr. Mrs. S. P. Ingole  
(H. O. D)  
Department of Environmental  
Science  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

## A Study Survey on Food Waste Management

### CHAPTER: V DISCUSSION AND CONCLUSION

On the basis survey questionnaire study of food waste management in hotel and questionnaire survey at home about manage food waste in daily life the purposed of household food waste questionnaire appears to be useful method for large scale measurement in differentiated household according to the amount of food waste each produces, although should be noted that it underestimates the amount of food waste. The purpose questionnaire is especially useful when attempting to measure household food waste in large and geographically. The production of food waste from hotel industry is such a big challenge so there development a holistic framework for wastemanagement. In hotel industry most of the food store food correctly there are liquids waste is commonly found both in household as well as hotel industries. hotel food waste represents a significant societal challenge in transitional economies where frequency of dining out is rising. The problem of hotel food waste in this context is however under-researched which hampers understanding of its causes and effects. This paper contributes to knowledge with survey study of food waste management in hotel Amravati city. it establishes the causes of hotel food waste and explores managerial approaches to mitigation. The study highlights the crucial role of targeted governmental support in more effective management of hotels food waste. The government should train hotels how to quantify and characterize major food waste streams. It should further provide reliable services of municipal waste collection to facilitate on-site food separation and recycling. Lastly, public awareness campaigns should be developed to better engage customers in hotels food waste minimization

A  
PROJECT REPORT ON

" To Study the Impact of Pandemic Situation of Life  
Style of Rural and Urban Society"



Submitted to  
Sant Gadge Baba, Amravati University, Amravati in partial  
fulfillment of the required for the degree of Masters of Science in the  
subject of Environmental Science

By  
Mr. Anup A.Taywade  
M.SC II (SEM IV) ( Environmental Science )

Guided By  
Mrs. Dr. S.P.Ingole

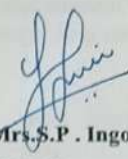
Department of Environmental Science  
Shri Shivaji Science College  
Shivaji Nagar, Amravati  
[2020-21]

### CERTIFICATE

This is to certify that I have been supervising the project work, entitled "To Study the Impact of Pandemic Situation of Life Style of Rural and Urban Society" of **Mr. Anup A. Taywade** for partial fulfillment of the Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati. He has completed her project work satisfactorily and it is ready for evaluation.



**Dr. Mrs. S.P. Ingole**  
( Supervisor.)  
Dept. Of Env.Sci.  
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**Dr. Mrs. S.P. Ingole**  
(H.O.D)  
Dept. Of Env.Sci.  
Shri. Shivaji Science College  
Amravati  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

To study the Impact of Pandemic Situation of Life Style of Rural and Urban Society

## 6.2 Conclusions

A problem as complex, multifaceted and long-term as climate change can be solved only through a process of rapid social, technological and policy actions. The swift coordinated response in case of the pandemic shows, this is possible. India's stance has always been clear on the global stage that climate change must be addressed in the country while being conscious of the country's developmental agenda. With increasing recognition that development is impeded by the impacts of climate change adds to the problem. The development pathway of India is marked by the dependence on climate sensitive sectors- agriculture, water, health, infrastructure, natural ecosystems and forestry and energy. It is crucial to strengthen the knowledge on vulnerability to climate impacts and enhancing the understanding at a macro-level (sector or State) of changes required to build resilience to climate impacts. While India is committed to NDC till 2030, a long-term strategy is important to bring down emissions while pursuing sustainable growth and development. However, it is important to note that success of a long term strategy depends not only on the lessons learnt from implementing the short or medium term development strategies, but also international cooperation and coordination. Thus, accelerating change requires international cooperation on finance and technology. |

## 6.3 Suggestions

- Changes from face to face to digital connections in education, health, shopping, business and culture, induced by the pandemic, persist, and what are the implications of this for rural communities characterised by weak internet connectivity.
- Preferences for and the pace of rural remote working and living accelerate as businesses and employees realise that in many instances they can work remotely, away from the crowds.
- Effectiveness of current and evolving business and community support measures, and to what extent is the distribution of funding equitable across localities and communities.
- Pandemic lead to a longer-term increase in demand for local foods and shorter supply chains? Will there be an increase in households producing their own home-grown food.



**PROJECT REPORT ON**

**COMPARATIVE SURVEY OF ORGANIC FERTILIZER AND  
CHEMICAL FERTILIZER**

Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of the  
required for the degree of Masters of Science in the subject of Environmental  
Science



**By**

**Kirtika Jagdish Mohod**

M.SC II (SEM IV) ( Environmental Science )

**Guided By**

**Dr.Mr.K.J.Gawai Sir**

Department of Environmental Science

Shri Shivaji Science College

Shivaji Nagar, Amravati

**[2020-21]**

## CERTIFICATE

This is to certify that I have been supervising the project work, entitled" COMPARATIVE SURVEY OF ORGANIC FERTILIZER AND CHEMICAL FERTILIZER" By KIRTIKA JAGDISH MOHOD for partial fulfillment of the Project of Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.



Dr. Mr. K.J. Gawai

(Supervisor)

Dept. Of Env.Sci.

Shri. Shivaji Science College.,

Amravati.



Dr. Mrs. S.P. Ingole

(H.O.D)

Dr. S.P. Ingole  
Dept. Of Env.Sci.

Shri. Shivaji Science College

Dept. Of Environmental Science

Shri Shivaji Science College,

Amravati.

Comparative survey of organic fertilizer and chemical fertilizer

## CHAPTER- V CONCLUSION AND DISCUSSION

### CONCLUSION

This Study has shown that the chemical Fertilizers are effective and convenient in use for production and disease management of plant but they are potential threat for the health and environment of soil, plant as well as human. And the organic Fertilizer are good but production are less.

### DISCUSSIONS

I survey of 15 farmers from Kural Purna village was done for assessing the practice of farmers on Fertilizer use.

Interview method was used for filling in the questionnaire. All the interviews were conducted face to face with farmers.

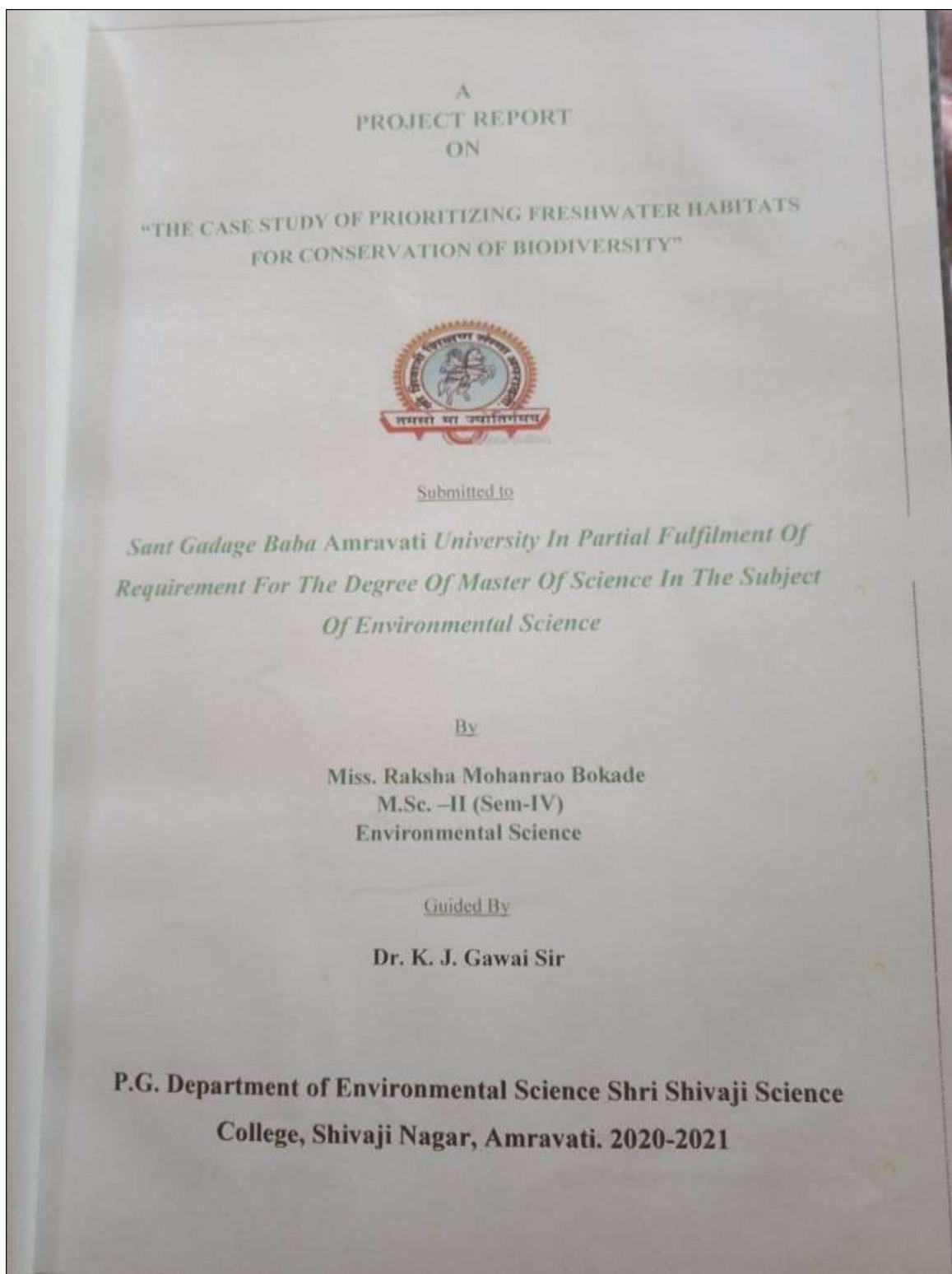
Farmers were interviewed in Marathi to maintain the consistency while interviewing.

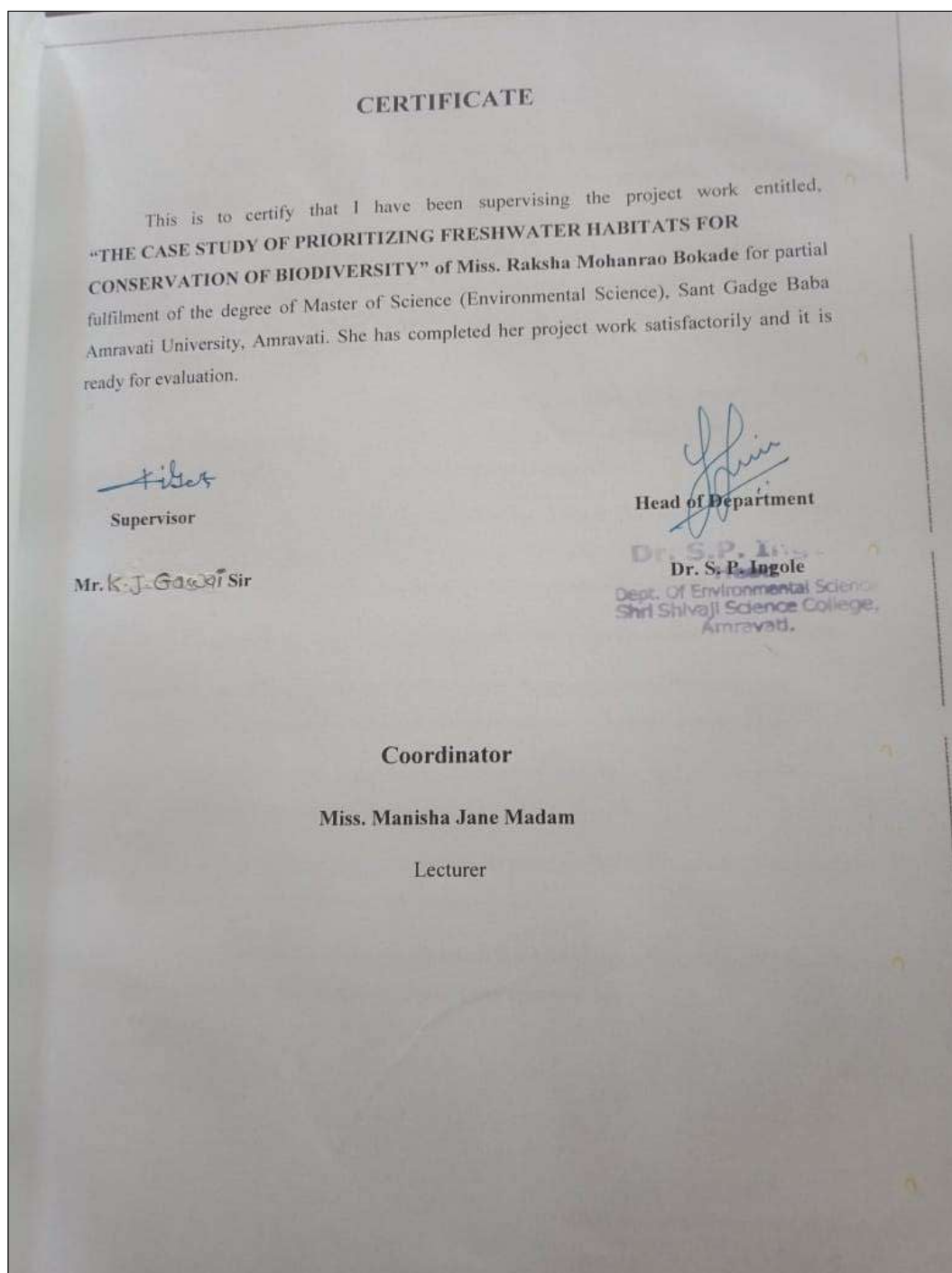
And there is a positive response of the farmers.

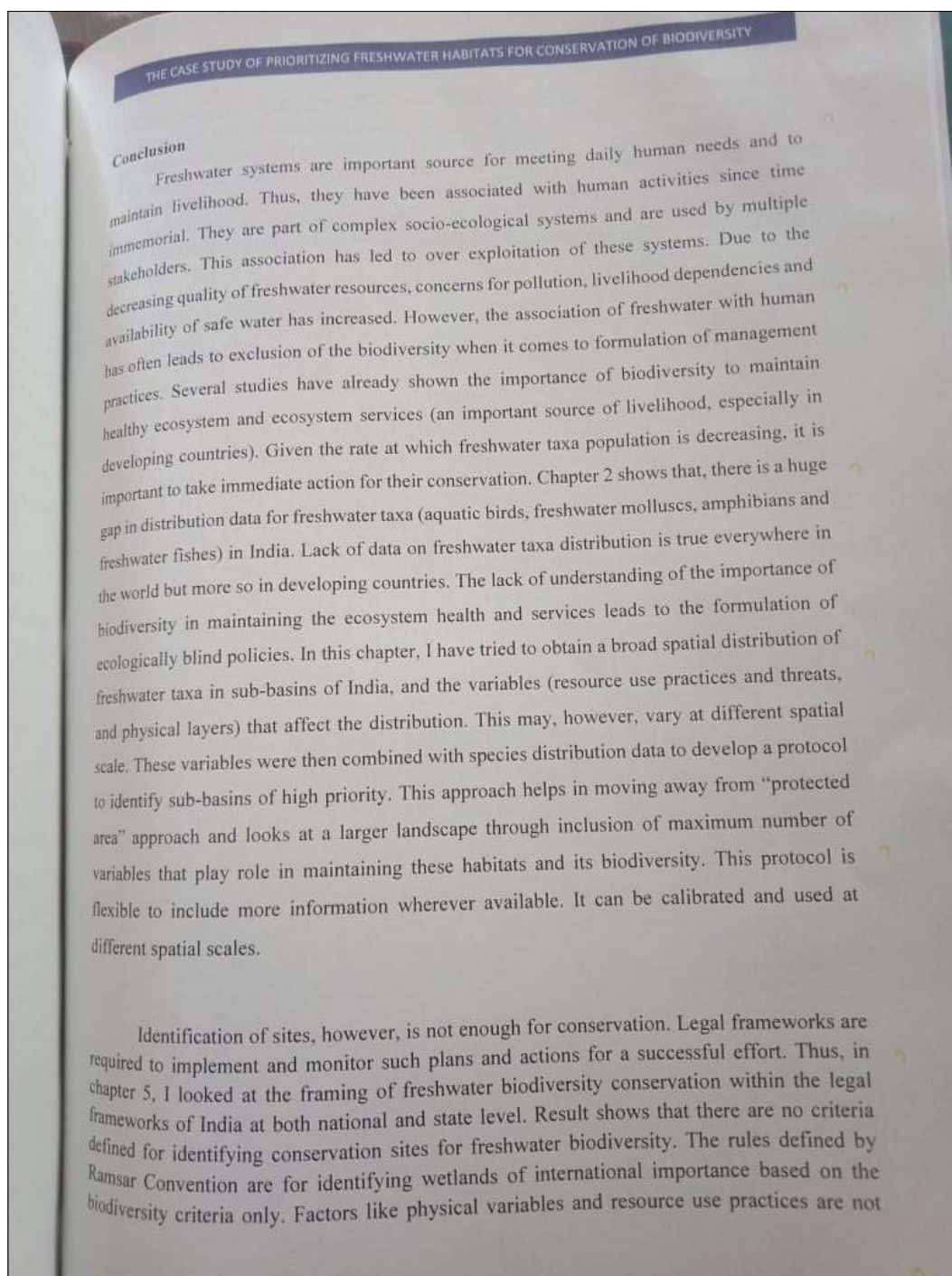
And my Field Experiment The result of a field experiment conducted at my farm in Kural Purna village.

The data on plant height recorded at 17 days

The data on plant height recorded at different growth stages show significant variance among the various nutrient management practices.







**CERTIFICATE**

This is to certify that I have been supervised the project work entitled,  
" Environmental Litteracy Survey" of Miss. Pooja V Lawhale for partial fulfillment of the degree of master  
Of Science (Environmental Science), sant Gadge Baba Amravati University, Amravati.  
She has completed her project work satisfactorily and is ready for evaluation.

Supervisor & Coordinator

Head of Department

Dr. Sangita Ingle

Dr.S.P.Ingle

Assistant Professor

## Result And Conclusion

Project Work  
Shri. Shivaji Science College, Amravati.  
Session 2020-2021

Name :- Sangita V. Lawhale

Area :- Kalpana Nagar

1) Do you clean Dustbin Regularly?

A.Yes

B. No

C. Sometimes

2) Do You Use Plastic Bags?

A.Yes

B. No

3) How Many Types Of Dustbin use you in your home?

A.Green -Wet Waste

B.Blue -Dry Waste

C. Both

4) Have you like to join "Swatch Bharat Mission"?

A. Yes

B. No

5) Do You Celebrate Pollution-Less Diwali ?

A. Yes

B. No

PROJECT REPORT ON  
ENVIRONMENTAL LITERACY SURVEY



Submitted to Sant Gadge Baba, Amravati University, Amravati in partial fulfillment of the requirements for the degree of master of science in the subject of Environmental science

By

**Snehal Rajkumar Chondhe**  
M.sc.II SEM-IV(Environmental Science)

Guided By

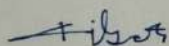
Dr. K. J. Gawai sir  
(Asso.professor)

Department of Environmental Science  
Shri shivaji Science college,  
Shivaji Nagar, Amravati  
[2021-22]



### Certificate

This is to certify that the project entitled "ENVIRONMENTAL LITERACY SURVEY " has been completed by **Snehal Rajkumar Chondhe** under my supervision during the academic year 2020-2021 as a partial fulfillment of project of M. Sc Part-2 Semester 4(Environmental Science) at Department of Environmental Science, Shri Shivaji Science College, Amravati.



**Dr. K.J. Gawai**

(Supervisor)

Dept. Of Env.Sci.  
Shri. Shivaji Science College,  
Amravati.



**Dr. Mrs. S.P. Ingole**

(H.O.D)

Dept. Of Env. Sci.  
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Amravati.  
Dept. Of Environmental Science  
Shri Shivaji Science College,  
Amravati.

## CHAPTER 5 (CONCLUSION)

### CONCLUSION

The survey is conducted in the Katpur village residential area. The conclusion reveals that the environmental literacy among farmers and woman's live in Katpur village is quite satisfactory. They are presently concerned about the environment. Some people can take the environmental problems seriously and diseases about them. They actively part in the survey.

It is concluded that the people in the area of Katpur village are literate about the environment and its problems.

CHAPTER VI  
REFERENCE

**A  
PROJECT REPORT ON**

**" STUDY OF ENVIRONMENTAL LITERACY IN  
PATHROT CITY OF ACHALPUR TALUKA DIST  
AMARAVTI "**



**Submitted to  
Sant Gadge Baba, Amravati University, Amravati in partial  
fulfillment of the required for the degree of Masters of Science in the  
subject of Environmental Science**

**By  
Miss. prerna N. Hekde  
M.SC II (SEM IV) ( Environmental Science )**

**Guided By  
Dr.K.J.Gawai  
(Asso.professor)**

Department of Environmental Science  
Shri Shivaji Science College  
Shivaji Nagar, Amravati  
[2020-21]

## CERTIFICATE

This is to certify that I have been supervising the project work, entitled "**STUDY OF ENVIRONMENTAL LITERACY IN PATHROT CITY OF ACHALPUR TALUKA DIST AMARAVTI**" of Miss.**Purna N.Hekde** for partial fulfillment of the Degree of Masters of Science (Environmental Science), Sant Gadge Baba Amravati University, Amravati.

He has completed her project work satisfactorily and it is ready for evaluation.

**Dr.K.J.Gawai**

( Supervisor.)

Dept. Of Env.Sci.

Shri. Shivaji Science College,.

Amravati.

**Dr.Mrs.S.P . Ingole**

(H.O.D)

Dept. Of Env.Sci.

Shri. Shivaji Science College

Amravati.

CHAPTER-V

CONCLUSIONS AND SUGGESTIONS

5.1 Finding

- Most of the of the respondents used water drop for water cleaning in most of the rainy season, Almost respondent response get always clean water in Pathrot
- It is find out that 67% not done to save water
- It is observed that 63% of the respondents distribute wet-dry garbage regularly
- 79% respondents dispose home waste using dust bin,
- It is observed that 54% respondents tree plantation for reduced pollution . It is observed that Satisfied with fire cracker act by govt in festival season most of the respondents are very un satisfied
- Most of the respondents check PUC of Vehicle Regularly 65% respondents check PUC of Your Vehicle
- It is observed that 58% of the Faced problem of pollution
- Most 47% respondents faced air pollution (which include vehicle, industry
- pollution faces respirator problem),
- Most of the 82% respondents not any troubles in the mobile tower
- It is find out that 79% of the respondents known about environment day from
- media, print media, TV and other source
- It is find out that 61% of the respondents known about ozone effect and 39 do not know about ozone effect
- It is observed that 96% respondent used LPG gas (because of the govt, schemes) . 100% respondents Shut down while do not need electricity equipment

MSC II (Environmental science )project submitted to SGB Amravati University, Amravati, 2020-2021 page50

ENVIRONMENTAL LITERACY SURVEY

- It is find out that 68% respondents prefer walking rather than being in the vehicle for the closure distance It shows that 100% Support plastic ban in city
- It is find out that 100% respondents reduced used of plastic bags on Govt. Act on plastic ban,
- It is find out that 68% used cotton or paper bags an alternative of plastic bags
- It is find out that 97% respondent do not used solar equipment's.
- It is find out that 71% respondents response that need to create a special law that you believe will not harm the environment

**Department of Physics**

List of Students under taking Project Work

**Shri Shivaji Science College, Amravati**  
**Department of Physics**  
**M. Sc. Sem IV (2020-21)**  
**List of students for Project Submission**

S. N.	ROLL NO.	Name Student
1	70048	GAWALI DHANANJAY P.
4	70049	SONAR AMBIKA R
2	70050	SHEWATKAR ADITI K.
3	70051	DAHIWADE AISHWARYA B.
5	70052	DESHMUKH HARSHA S.
6	70053	CHAINANI NAINA M.
7	70054	BHAMHANKAR NEHA V
9	70055	SAWARKAR SHEETAL V.
11	70056	UROOSA AMBREEN KHAN
12	70057	METANGE VAISHNAVI A
13	70058	MANGALE VAISHNAVI P
14	70059	GAJEWAR KUNAL G.
8	70060	KUBADE PRATIKSHA M.
10	70061	CHAWARE SIDDHALI P.
15	70062	KARDE VAIBHAV V.
16	70063	NIKAM VAIBHAV R

Title and Place of Work

**A Project Report on**  
**“Synthesis And Characterization of ZnO  
Nanoparticles”**

*By*

**DHANANJAY P. GAWALI**  
**M.Sc. II (PHYSICS)**  
**(SEM IV)**  
**Year 2020-21**



*Submitted To*  
**Department of Physics**  
**Shri Shivaji Science College, Amravati**  
**Sant Gadge Baba Amravati University, Amravati**

**Under The Supervision**  
**Miss. S. M. Butte**

Project Work Completion

	<p>Shri Shivaji Education Society, Amravati's <b>Shri Shivaji Science College, Amravati</b> <small>NAAC Accredited by Grade A with CGPA of 3.13(Third Cycle), UGC Awarded Status of College with Potential for Excellence (Second Phase) Identified by DST, Govt of India for FIST and Sant Gadge Baba Amravati University as Lead College Shivaji Nagar, Nagpur Road Amravati, MS, India – 444603 Website: www.shivajiscamt.org   Email: shivajiscamt.office@gmail.com Contact: 0721-2660855   Fax: 0721-2665485</small></p>	
 <b>CERTIFICATE</b> 		
<p>This is to certify that Mr. <b>Dhananjay Purushottam Gawali</b> has completed Project report entitled “<b>Synthesis And Characterization of ZnO Nanoparticles</b>” for M.Sc. II (Sem IV) in Physics during the academic session 2020-2021.</p>		
<p><b>Place:- Amravati</b></p>		
<p><b>Date:-27/08/2021</b></p>		<p>_____ <b>Supervisor</b> <b>Miss. S. M. Butte</b></p>
<p>_____ <b>Seal of College/Department</b></p>		<p>_____ <b>Sign of Head of Department</b> <b>Dr. W. S. Barde</b></p>



## Conclusion:

Countless study has been proved that the green synthesis to acquire zinc oxide nanoparticles by using various biological extract including the neem leaf extract is attainable. The green synthesis of ZnO NPs allows avoiding the toxic chemical agents. However, the Neem leaf extract possesses some phytochemicals which not only performs in the reduction of the particle sizes but also provide sufficient stabilization. By using zinc acetate dehydrate  $[\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}]$  as precursor for the synthesise of zinc oxide, it proved that concentration of both zinc source & biological extract plays crucial role to synthesizing morphology and optical properties of zinc oxide nanoparticles formed by using zinc acetate dehydrate using Fourier Transform Infrared Spectroscopy (FTIR), From the analysis of IR spectrum (Fig. 4), the peaks present in the region between  $600$  and  $400 \text{ cm}^{-1}$  are denoted as metal oxygen (Zn-O) stretching vibrational frequency. X-Ray Diffraction (XRD) Spectroscopy, The maximum peak appears at  $2\theta = 36.25$  is peak for ZnO nanoparticles. UV-Visible Spectroscopy, the maximum absorption value of ZnO NPs on  $373.40 \text{ nm}$ . Due to the variation of particle size and their configuration the slight shift of the absorption peak may be occurred. ZnO NPs are one of the most important and versatile materials, due to their diverse properties, functionalities, various benefits, and applications to humans. With respect to its toxicity properties, ZnO NPs can act as smart weapons against multiple drug-resistant microorganisms and as a talented substitute for antibiotics. It is anticipated that this review could further streamline the research on innovative methodological and clinical correlations in this area.

# **PROJECT REPORT ON** **“Relaxor Ferroelectric Lead Iron Niobate”.**

A Project Report  
*Submitted by*

**Ambika R. Sonar**  
**(Final Year 2020-21)**

*For Internal Assessment*  
*Of*

**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**

At



ESTD. :

**Supervisor**  
**Dr. S. K. Sayyad**

---

**Submitted to**  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**



Shri Shivaji Education Society, Amravati's  
**Shri Shivaji Science College, Amravati**

N.A.C. Accredited by Grade A with C&PA of 3.13 (Third Cycle), U.C. Awarded Status of College with Potential for Excellence (Second Phase)  
Identified by DST, Govt of India for FIST and Sant Gadge Baba Amravati University as Lead College  
Shivaji Nagar, Nagpur Road Amravati, MS, India – 444603  
Website: www.shivajiseamt.org | Email: shivajiseamt.office@gmail.com  
Contact: 0721-2660855 | Fax: 0721-2665485



 **CERTIFICATE**

***This is to certify that Mrs. Ambika Rajendra Sonar  
has completed project work entitled “Relaxer Ferroelectric Lead  
Iron Niobate” for said degree in Master of Science final year Section  
Physics during the academic session 2020-2021***

**Place:- Amravati**

**Date:-**

\_\_\_\_\_  
**Supervisor  
Dr. S. K.**

\_\_\_\_\_  
**Seal of College/Department  
Department**

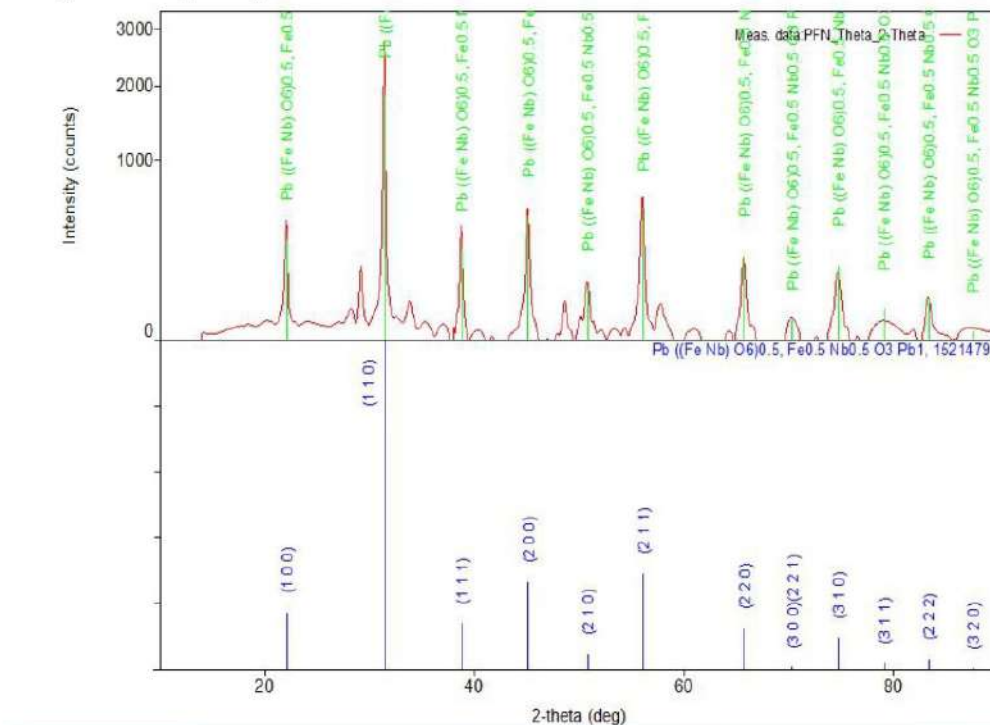
\_\_\_\_\_  
**Sign of Head of  
Dr. W. S. Barde**

permittivity ( $\epsilon_r$ ) and dissipation factor ( $\tan \delta$ ) was measured in the frequency range 100 Hz–1 MHz and in the temperature range 25–170°C using computer control HP 4192A LF Impedance Analyzer.

**Results and Discussion:-**

**XRD Characterization**

X-ray powder diffraction patterns (XRD). The analysis of XRD patterns indicate that all specimens exhibit single-phase with rhombohedral symmetry, which is in good agreement with earlier report [5]. The comparison of observed  $d_{hkl}$  and  $I/I_{max}$  values with those of JCPDS data for PFN sintered at different temperatures is shown in fig. As seen all most all experimental lines of each sample matches closely with JCPDS data corresponding to PFN. This suggests that there is no change in the basic crystal structure with increasing sintering temperature.



## "Synthesis of lead free piezoceramics"

Conventional and Microwave Assisted Sol-gel Method. 2.Hydrothermal combustion method and it's characteristics

Report of the Project carried out in Final Semester of M.Sc. Physics

Prepared By

Aditi K. Shewatkar

M.Sc. Physics

Semester-IV

2020-21

Supervisor

Dr. S. K. SAYYAD

Associate Professor in Physics

Shri Shivaji Science College, Amravati

Submitted to

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI (M.S.)

## CERTIFICATE

This is to certify that review report of the proposed project entitled "Synthesis of lead free Piezoceramics" carried out in the final semester for the partial fulfilment of the requirements for the award of degree of Master of Science (M.Sc.) Physics is prepared by Aditi K. Shewatkar under my supervision and consultation.

Place: Amravati

Date:

Dr. S. K. SAYYAD

Dr. W. S. BARDE  
HOD, Department of Physics

## 6. Conclusion :

The microwave-assisted sol-gel method, conventional sol-gel, Sol-gel combustion and hydrothermal combustion method were used to obtain a single phase BNT. System of BNT nanoparticles were successfully synthesized by microwave assisted gel combustion route. Thermal analysis was done by DTA-TGA technique. From the DTA-TGA curve it was confirmed that the complete removal of residues occurs at 300oC and the crystallization is occurs above 500oC

# **Synthesis and characterizations of Ferrite Nanomaterials by Sol-Gel auto combustion**

**Review/Survey Report of the Project to be carried out in Final Semester  
of M.Sc. Physics**

**Prepared By**

**Miss. Aishwarya Bhimrao Dahiwade**

M.Sc. Physics Semester-IV

2020-21

**Guide By**

**Dr. Vaishali V. Deshmukh**

Assistant Professor  
Department of physics  
Shri Shivaji Science College, Amravati

**Submitted to**

**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI (M.S.)**



## CERTIFICATE

This is to certify that project report of the proposed project entitled “**Synthesis and characterizations of NiFe<sub>2</sub>O<sub>4</sub> and CdFe<sub>2</sub>O<sub>4</sub> Nanomaterials by Sol-Gel auto combustion**” to be carried out in the final semester for the partial fulfilment of the requirements for the award of degree of Master of Science (M.Sc.) Physics is prepared by **Miss.**

**Aishwarya Bhimrao Dahiwade** under my supervision and consultation.

Place: Amravati

Date: 24/08/2021

**Dr. Vaishali V. Deshmukh**

(Project guide)

Assistant Professor

Department of physics

Shri Shivaji Science College, Amravati



# Shri Shivaji Science College, Amravati.

## Department of Physics

### Summary on

“Structural and Morphological properties of  
Magnesium Oxide nanoparticles fabricated by green  
synthesis method”

Submitted by

**Ms. Harsha S. Deshmukh**  
M.Sc. II year (SEM-III)

Guided by

**Dr. V. V. Deshmukh**  
Assist. Professor  
Department of Physics

## CERTIFICATE

This is to certify that project report of the proposed project entitled “Structural and Morphological properties of magnesium oxide nanoparticles fabricated by green synthesis method ” to be carried out in the final semester for the partial fulfilment of the requirements for the award of degree of Master of Science (M.Sc.) Physics is prepared by Ms. Harsha S. Deshmukh under my supervision and consultation.

Place: Amravati

Date:24-08-2021

Dr. V.V. Deshmukh  
(project guide)

The standard wavelength of light absorbed by Magnesium oxide is 295 nm.

By graph, we obtained broad peak at peak number 2, which absorbed the wavelength of 272.00 nm with 0.920 percent absorbance. And thus the presence of Magnesium oxide is confirmed.

## 5.2 Conclusion:

Magnesium oxide was synthesized by green synthesis method from *Hardiwikia Binnata* leaves extract using Magnesium Nitrate  $\{Mg(NO_3)_2\}$ . The influence of various parameters viz, stirring temperature, concentration of *Hardiwikia Binnata* leaf extract and calcinations were optimized for the synthesis of Magnesium oxide nanoparticle. The synthesized Magnesium oxide nanoparticles are investigated by using XRD, UV-vis and FTIR to confirm the presence of Magnesium oxide nanoparticles.

## References:

- [1] D. Alderton, X-Ray Diffraction (XRD), Encyclopedia of Geology (Second Edition), pp 520-531, 2021
- [2] A. Chepusov, A. Komarskiy, S. Korzhenevskiy, V. Bessonova, Application of Carbon Materials for Creation of X-ray Sources Cathodes, Materialstoday Proceedings, V-3, pp S246-S251, 2016
- [3] K. W. Pei, L. F. Zhi, Y. Y. .Wei, X. Zhong, Simulation study of the long range wakefield induced multi-bunch instability in the China X-ray free electron laser, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, V-999, pp 165159, 2021
- [4] M. Doumeng, L. Makhlouf, F. Berthet, O. Marsan, K. Delbe, J. Denape, F. Chabert, A comparative study of the crystallinity of polyetheretherketone by using density, DSC, XRD, and Raman spectroscopy techniques, Polymer Testing V-93, pp 106878, 2021

# “Quantum Mechanics In Scilab”

## Project Report

Submitted To

**Sant Gadge Baba Amravati University, Amravati**

Submitted By

**Ms. Naina M. Chainani**

Project Guide

**Dr. P.A. Nagpure**



**Department of Physics**

**Shri Shivaji Science College, Amravati**

**Sant Gadge Baba Amravati University, Amravati**

## CERTIFICATE

This is to certify that **Ms. Naina M. Chainani** of this institute has carried out project work on “**Quantum Mechanics In Scilab**” under the guidance of **Dr.P.A.Nagpure** Associate Professor, Department of Physics, Shri Shivaji Science College, Amravati during the academic session 2020-21. The work has been done in partial fulfillment of the requirement for the award of degree Master of Science (Physics) in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.

Place : Amravati

Date :

**Dr. P.A.Nagpure**

Associate Professor

Department of Physics

Shri Shivaji Science College,

Amravati

**Dr.W.S.Barde**

Head of Department

Department of Physics

Shri Shivaji Science College,

Amravati

**Conclusion:**

**In** this project we have successfully used scilab software for solving quantum mechanics problems. We have solved the problems like matrices ,

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DEPARTMENT OF PHYSICS  
SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI Page 27

polynomials , definite integrals ,schrodinger equations etc. We should also plot 2D & 3D graphs with the help of Scilab software. Using this software Quantum Mechanics problems can be solved in less time and in more pictorial way.

**Highly sensitive glucose biosensor based on  
polyaniline(PANI)/graphene(GR)composite synthesized by  
interfacial polymerization**

**Project Report**

Submitted To

**Sant Gadge Baba Amravati University, Amravati**

Submitted By

**Miss. Neha V. Brahmkar**

Project Guide

**Dr.W.S.Barde**



**Department of Physics**

**Shri Shivaji Science College, Amravati**

**Sant Gadge Baba Amravati University, Amravati**



## CERTIFICATE

This is to certify that **Miss. Neha Vijayrao Brahmankar** of this institute has carried out project work on “**Highly sensitive glucose biosensor based on polyaniline(PANI)/graphene(GR)composite synthesized by interfacial polymerization**” under the guidance of **Dr.W.S.Barde** ,Head of Department of Physics, Shri Shivaji Science College, Amravati during the academic session 2020-21. The work has been done in partial fulfillment of the requirement for the award of degree Master of Science (Physics) in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.

Place : Amravati

Date :

**Dr.W.S.Barde**  
Head of Department  
Department of Physics  
Shri Shivaji Science College  
Amravati

**“synthesis and structural characterization  
Of ZnO Nanoparticles”**

**Review report of the project to be carried in Final semester of physics**

**Prepared By**

Miss Sheetal V. Sawarkar

M.Sc. Physics

Semester – IV

2020 – 2021

**Under the Guidance of**

**Dr. A. B. Bodade**

Assistant professor

Department of Physics

Shri Shivaji Science College , Amravati

**Submitted to :**

**SANT GADGE BABA AMRAVATI UNIVERSITY (M.S.)**

### **CERTIFICATE**

This is certify that the review repot “synthesis and structural characterization of ZnO nanoparticles” contains the bonafied record of miss Sheetal V. Sawarkar who has work on this project under my supervision and completed in the acadmic year 2020-2021 for the fulfillment for the award of the degree of **master of science (M.Sc.) in Physics** of “ **Sant Gadge Baba Amravati university**” during the acadmic year 2020-2021

**Place**

**Date**

**Dr .A. B. BODADE**

**(project guide)**

"Synthesis of Nickel ferrite( $\text{NiFe}_2\text{O}_4$ ) nanoparticles by using Co-Precipitation method"

Review Report of the project to be carried out in final semester of M.SC. Physics

Prepared By

Uroosa Ambreen Sher Khan

M.SC. Physics

Semester 4th

2020 - 2021

Supervisor

Dr. Naresh Sarkar Sir

Associate Professor In physics

Shri Shivaji Science College, Amravati

Submitted To

SANT GADGE BABA AMRAVATI UNIVERSITY  
AMRAVATI (M.S.)

## CERTIFICATE

This is to certify that project report of the proposed project entitled " Synthesis of Nickel ferrite nanoparticles by using Co-Precipitation Method" carried out in the final semester for the partial fulfillment of the requirements for the award of master of science (M.SC.) physics is prepared by MS.Uroosa Ambreen Sher Khan under my supervision and consultation.

Place: Amravati

Date:

Dr. N.S. Sir

**CONCLUSION:-**

The paper thoroughly discussed the synthesis of NiFe<sub>2</sub>O<sub>4</sub> nanoparticles by the employment of Co-Precipitation method. The fact that the NiFe<sub>2</sub>O<sub>4</sub> nanoparticles belonged to the cubic spinel structure was established by XRD. FTIR spectrum also supported the formation of NiFe<sub>2</sub>O<sub>4</sub> nanoparticles. That the nanoparticles agglomerated to form spherical shaped particle was also confirmed and made clear by the SEM analysis. The average particle size of NiFe<sub>2</sub>O<sub>4</sub> nanoparticles was found to be 28nm. The impact of the frequency and the temperature on the dielectric loss and the dielectric constant for NiFe<sub>2</sub>O<sub>4</sub> nanoparticles was studied. From the dielectric studies it becomes evident that the frequency negatively impacts as both the dielectric constant and the dielectric loss decreased with increased in the frequency. A study of the magnetic properties was also carried out using VSM measurements.

# “Studies on structural and physical properties of multifunctional perovskite nano-dimension materials”



A Project Report Submitted to  
Shri Shivaji Science College, Amravati

**Sant Gadge Baba Amravati University, Amravati**

For the Degree of  
Master of Science

In  
Physics

By  
**Miss. Vaishnavi A. Metange**

Under the Guidance of  
**Dr. Pankaj P. Khirade**  
Assistant Professor,  
Department of Physics,  
Shri Shivaji Science College, Amravati

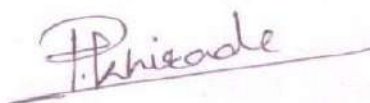
2020-2021

## **CERTIFICATE**

*This is to certify that Vaishnavi A. Metange of this institute has carried out a project work on a “Studies on Structural and physical Properties of multifunctional Perovskite Nano-dimension materials” under the guidance of, Dr. Pankaj P. Khirade Assistant Professor, Department of physics, Shri. Shivaji Science College Amravati, during the academic session 2020-2021. The work has been done in partial fulfilment of the requirement for the award of degree of Master of Science (Physics) in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.*

Place: Amravati

Date: 24<sup>th</sup> August 2021



**Dr. Pankaj P. Khirade**

Assistant professor,

Department of Physics, Shri Shivaji

Science College Amravati.



**Dr. W. S. Barde**

Head,

Department of Physics, Shri Shivaji

Science College Amravati.



**Conclusions:**

- ❖ Uniform Ce doped SrZrO<sub>3</sub> (for the composition  $x = 0.0, 0.1, 0.2$  and  $0.3$ ) multifunctional nanoceramics with the simple orthorhombic perovskite structure were synthesized by sol–gel auto combustion method.
- ❖ The lattice constants were found to be in reported range. The lattice constant increases with Ce doping in SrZrO<sub>3</sub> nanoceramics according to Vegards law.
- ❖ The other structural parameters such as unit cell volume and x-ray density are in reported range.
- ❖ The average crystallite size was found to be 24 nm to 32 nm.
- ❖ FTIR spectra showed major absorption band in the range of 563 cm<sup>-1</sup> and 596 cm<sup>-1</sup> characterizing the orthorhombic perovskite structure of the prepared samples.
- ❖ The obtained nanomaterials can be utilized for multifunctional applications in opto-electronics devices.

# “Investigations on structural and functional properties of multifunctional oxide nano-crystalline materials”



A Project Report Submitted to

**Sant Gadge Baba Amravati University, Amravati**

For the Degree of

Master of Science

In

Physics

By

**Miss. Vaishnavi P. Mangle**

**PG Research Student**

**Department of Physics,**

**Shri Shivaji Science College, Amravati**

Under the Guidance of

**Dr. Pankaj P. Khirade**

**Assistant Professor,**

**Department of Physics,**

**Shri Shivaji Science College, Amravati**

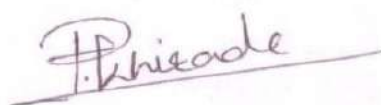
**August 2021**

## CARTIFICATE

*This is to certify that **Vaishnavi P. Mangle** of this institute has carried out a project work on a “**Investigations on Structural and functional Properties of multifunctional oxides nano-crystalline materials**” under the guidance of, **Dr. Pankaj P. Khirade** Assistant Professor, Department of physics, Shri. Shivaji Science College Amravati, during the academic session 2020-2021. The work has been done in partial fulfilment of the requirement for the award of degree of Master of Science (Physics) in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.*

Place: Amravati

Date: 24<sup>th</sup> August 2021



**Dr. Pankaj P. Khirade**

Assistant professor,

Department of Physics, Shri Shivaji  
Science College Amravati.



**Dr. W. S. Barde**

Head,

Department of Physics, Shri Shivaji  
Science College Amravati.

# **“Quantum Mechanics – Maple Programming”**

## **Project Report**

**Submitted To**

**Sant Gadge Baba Amravati University, Amravati**

**Submitted By**

**Mr. Kunal G. Gajewar**

**Project Guide**

**Dr. P.A. Nagpure**



**Department of Physics**

**Shri Shivaji Science College, Amravati**

**Sant Gadge Baba Amravati University, Amravati**

## CERTIFICATE

This is to certify that **Mr. Kunal Gajanan Gajewar** of this institute has carried out project work on “**Quantum Mechanics-Maple Programming**” under the guidance of **Dr.P.A.Nagpure** Associate Professor, Department of Physics, Shri Shivaji Science College, Amravati during the academic session 2020-21. The work has been done in partial fulfillment of the requirement for the award of degree Master of Science (Physics) in the Faculty of Science Sant Gadge Baba Amravati University, Amravati.

Place : Amravati

Date :

**Dr. P.A.Nagpure**

Associate Professor

Department of Physics

Shri Shivaji Science College,

Amravati

**Dr.W.S.Barde**

Head of Department

Department of Physics

Shri Shivaji Science College,

Amravati

# **“Synthesis of Zinc ferrite by using sol gel autocombution method”**

**Review Report of the Project to be carried out in Final Semester of M.Sc. Physics**

**Prepared By**

**Pratiksha Mohanrao Kubade**

**M.Sc. Physics**

**Semester - IV**

**2020 - 2021**

**Supervisor**

**Dr. Naresh Sarkar Sir**

**Associate Professor in Physics**

**Shri Shivaji Science College, Amravati**

**Submitted to**

## CERTIFICATE

This is to certify that review report of the proposed project entitled "**Synthesis of Zinc ferrite by using sol gel autocombution method**" to be carried out in the final semester for the partial fulfilment of the requirements for the award of degree of Master of Science (M.Sc.) Physics is prepared by Pratiksha M. Kubade under my supervision and consultation.

Place: Amravati

Date:

**Dr. Naresh Sarkar Sir**

A Project Report on

**“GREEN SYNTHESIS OF  
MULTIPURPOSE CARBON  
QUANTUM DOTS”**

*By*

**Miss. SIDDHALI P. CHAWARE**

**M.Sc. II (PHYSICS)**

**(SEM IV)**

**Year 2020-21**



*Submitted To*

**Department of Physics**

**Shri Shivaji Science College, Amravati**

**Sant Gadge Baba Amravati University, Amravati**

**Under the Supervision of**

**Dr. S. S. ARSAD,**

**Associate Professor,**

**Department of Physics, Shri Shivaji Science College, Amravati**





Shri Shivaji Education Society, Amravati's  
**Shri Shivaji Science College, Amravati**

NAAC Accredited by Grade A with CGPA of 3.13(Third Cycle), UGC Awarded Status of College with Potential for Excellence (Second Phase)  
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Shivaji Nagar, Nagpur Road Amravati, MS, India – 444603  
Website: www.shivajiscamt.org | Email: shivajiscamt.office@gmail.com  
Contact: 0721-2660855 | Fax: 0721-2665485



**CERTIFICATE**

This is to certify that *Miss. Siddhali P. Chaware*  
has completed Review report entitled “*Green synthesis of  
multipurpose carbon quantum dots*” for M.Sc. II in Physics  
during the academic session 2020-2021.

**Place:- Amravati**

**Date:24/08/21**

**Dr. S.S.Arsad**

Associate professor,

Department of Physics, Shri Shivaji  
Science College Amravati.

**Dr. W. S. Barde**

Head,

Department of Physics, Shri Shivaji  
Science College Amravati.

**A Review Report on**  
**“Polymer Nanocomposite And Their Various Application”**

*By*

**Vaibhav V. Karde**  
**M.Sc. II (PHYSICS)**  
**(SEM III)**  
**Year 2020-21**



*Submitted To*  
**Department of Physics**  
**Shri Shivaji Science College, Amravati**  
**Sant Gadge Baba Amravati University, Amravati**

**Under The Supervision**  
**Miss. S. M. Butte**



Shri Shivaji Education Society, Amravati's  
**Shri Shivaji Science College, Amravati**

NAAC Accredited by Grade A with CGPA of 3.13 (Third Cycle), UCC Awarded Status of College with Potential for Excellence (Second Phase)  
Identified by DST, Govt of India for FIST and Sant Gadge Baba Amravati University as Lead College  
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Contact: 0721-2660855 | Fax: 0721-2665485



**CERTIFICATE**

This is to certify that Mr. **Vaibhav Vitthalrao Karde**  
has completed Review report entitled “**Polymer Nanocomposite And  
Their Various Application**” for M.Sc. II (Sem III) in Physics during the  
academic session 2020-2021.

Place:- *Amravati*

Date:-

\_\_\_\_\_  
**Supervisor**  
**Prof. S. M. Butte**

\_\_\_\_\_  
Seal of College/Department

\_\_\_\_\_  
Sign of Head of Department  
**Dr. W. S. Barde**

**"To Synthesize titanium dioxide nano particle by sol-gel method"**

**Report of the project carried out in final year of M.Sc Physics**

**Presented By**

**Mr. Vishal Ravindra Nikam**

**M.Sc Physics (second year)**

**2020-2021**

**Supervisor**

**Dr. A.B.Bodade**

**Assistant professor**

**DEPARTMENT OF PHYSICS**

**Shri Shivaji Science College, Amravati**

**Submitted to**

**Sant Gadge Baba Amravati University, Amravati**

## CERTIFICATE

This is to certify that reported of the proposed project entitled "Synthesis of titanium dioxide nanoparticles by sol gel method" be to carried out in the final semester for the partial fulfilment requirements for the award of Master of Science (M.Sc) Physics is prepared by Mr. Vishal Ravindra Nikam under my supervision and consultation.

Place :Amravati

Date :

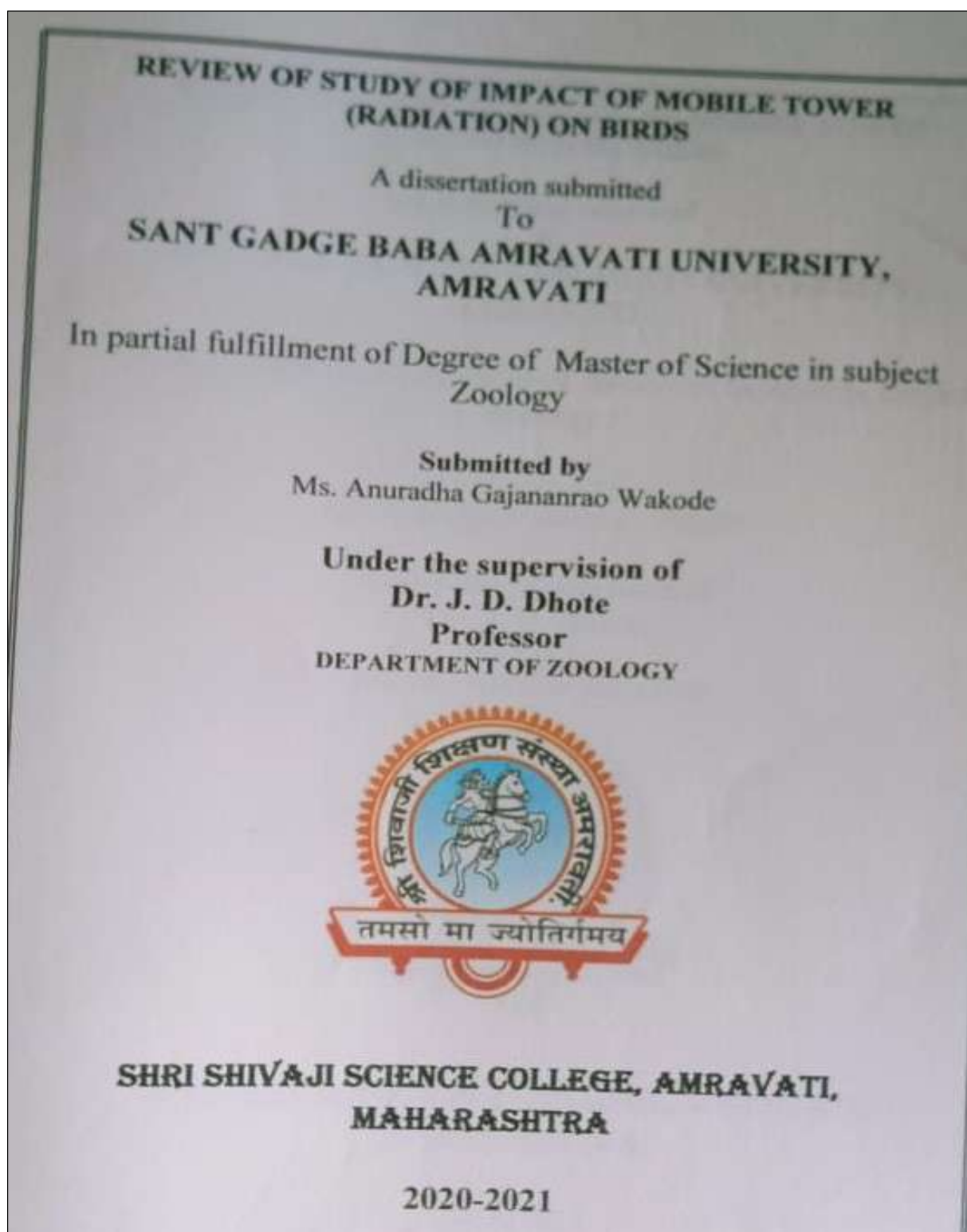
Dr.A.Bodade.

**Department of Zoology**

List of Students under taking Project Work

<b>Sr. No</b>	<b>Name</b>
1	Miss. A.G. Wakode
2	Mr. S.M. Ambulkar
3	Mr. R.D. Kaware
4	Miss. A.G. Wath
5	Miss. G.K. Solanke
6	Miss. P.P. Tayde
7	Miss. D.R. Bharsakale
8	Mr. M.P. Gawande
9	Miss. S.R. Khanzode
10	Miss. T.N. Yewale
11	Miss. P.S. Kolhe
12	Miss. A.A. Kale
13	Miss. S.V. Telgote
14	Miss. K.S. Marbate
15	Miss. V.S. Dhamande
16	Mr. A. A. Dhikar
17	Miss. A.T. Kakad
18	Miss. R.B. Pandey
19	Miss. N.S. Ingale
20	Miss. S.S. Niwane
21	Mr. J.D. Iwane
22	Mr. A.D. Kale

Title and Place of Work



## Project Work Completion

**CERTIFICATE**

This is to certify that Ms. Anuradha G.Wakode has worked under my guidance for her M.Sc. (Zoology) Semester-IV project entitled, “**Review of study of impact of mobile tower (Radiations) on birds**” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date 31/07/2021

Place: Amravati



Supervisor:

(Dr. J.D. Dhote)

Professor



Dr. R.G. Jadhao

**Dr. R.G. Jadhao**

Head & Professor

Professor & Head

Dent. Of Zoology

Department of Zoology

Shri Shivaji Science College,

Amravati.



### **Conclusion :**

The main purpose of this review project was to identify the effect of mobile phone towers on the birds.

Cellular phones are essential to our lives for all the communications. However, their extensive usage and upgraded services continue to threaten the species diversity and the lives of different birds in the region. While the cellular phones cannot be completely wiped out of our lives, it is important to find an alternative technology that can keep the wireless communication strong but do not pose any risk to the lives of these little creatures around us. Bird diversity is important to keep the plant diversity and all the researchers must try to begin looking for alternative technology for safe surroundings.

Electromagnetic radiation from the mobile phone base stations in conjunction with these factors add up to the depreciation in their population. Therefore, the purpose of this research is to develop a base so as to improve the technology used in Telecommunications to make it safer and ecofriendly.

The research will examine the effects of EMR on house sparrows using the methods such as interviews of local people, environmentalists, and people from the telecommunication department along with the ethnographic field study which will include the methods covered under section 5.

By above observations and discussions it is concluded that, the electromagnetic signals are directly or indirectly associated with the decline in the diversity of birds.

# **A Preliminary Study of Saurian Fauna in the Daryapur Area, Amravati District, Maharashtra**

A dissertation submitted to  
Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Mr. Sumit.M.Ambulkar**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. G.A. Wagh**

Professor

**Department of Zoology**

**Shri Shivaji Science College Amravati – 444603.**

2020-2021


## Certificate

This is to certify that **Mr. Sumit.M. Ambulkar** has completed his project work, entitled “**A Preliminary Study of Saurian Fauna in the Daryapur Area, Amravati District, Maharashtra**” for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31-07-2021

  
**Dr. R.G. Jadhao**  
**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology  
Amravati

Shri Shivaji Science College, Amravati

**CONCLUSION:**

The observation shown that the lizards diversity richness in study area. It was a preliminary study on the saurian faunal diversity but further study is need to explore the diversity of lizards to purpose several conservation strategies in study area. Having small land area, where the primary forest vegetation is rapidly declining and the lizard population is facing an imminent threat.

The chief impact of lizards on humans is positive, as they are the main predators of pest species. Humans also keep many lizards as pets and some species are even eaten as food. The increasing population of India has produced increased development and road networks that have brought worrying pressure on population of flora and fauna in its biodiversity hotspots.

Fan Throated Lizard *Sitana deccanensis* and The banded ground Gecko *Geckoella deccanensis* recorded first time in Daryapur area of Amravati District, Maharashtra.

For the better estimation and complete checklist of saurian fauna of the study area needs a long term study.

DEPARTMENT OF ZOOLOGY  
SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI,  
MAHARASHTRA



PRACTICAL RECORD  
**Practical – VIII**

**PROJECT WORK**

**Edible Fresh water fishes of Amravati District**

**M. Sc. (Zoology) Semester - IV**

2020-21

Submitted by

*Mr. Roshan D. Kaware*

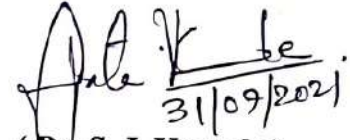
Roll No.

**CERTIFICATE**

This is to certify that Mr. Roshan D. Kaware has worked under my guidance for his M.Sc. (Zoology) Semester-IV project entitled, "Edible Fresh water fishes of Amravati District" for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project work satisfactorily and it is ready for evaluation.


Date: 31/07/2021

  
31/09/2021  
(Dr. S. J. Kawade)

Asst. Professor

Place: Amravati

Supervisor

  
**Dr. R. G. Dadhao**  
Professor & Head  
Head of Department of Zoology  
Shri Shivaji Science College,  
Amravati.  
Department of Zoology

The present study reported 9 fresh water fish species, 1 edible marine water fish specie and 2 Non-fish organisms (Prawn and Crab) as the most popular edible aquatic organisms of Amravati district. The study also reports the habit and habitat, nutritional value, culturable significance and economic importance of these aquatic organism.

Growing industrialization, several anthropogenic activities and other developments in Amravati district in Maharashtra leads to a huge scarcity of water and available water getting polluted, which is mainly due to failure of system with respect to water management and conservation. This led to unemployment in the low income fisherman due to which they are involved in non-fishing activity. For this, fresh water fish culture can provide an alternative to capture fisheries thus increasing fish production and reducing unemployment among the fishermen.

The present study, recommends proper implementation of Government policy regarding fish capture and culture practices.

Introduction and training of new techniques in fishing should be provided to fisherman. Industrial set up should be allowed with proper sewage treatment plant. Continuous monitoring of nearby rivers and its stream by NGO's, Government authorities with the help of students will help to create awareness in the community. Such initiative will increase fish production in Amravati district which will generate a good income to fishermen for upgrading their livelihood.

The introduction and training of improved culture systems (economically important fish species), highly productive strains, highly improved feed formulations in intensive farming systems, highly improved techniques in the hatchery production of fry, and the expansion of production areas, will all contribute significantly to the fast growth of aquaculture in our country.

**REVIEW OF STUDY OF IMPACT OF MOBILE TOWER  
(RADIATION) ON BIRDS**

A dissertation submitted  
To  
**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

In partial fulfillment of Degree of Master of Science in subject  
Zoology

**Submitted by**  
Miss. Apurva Gangadhar Wath

**Under the supervision of**  
**Dr. J. D. Dhote**  
**Professor**  
**DEPARTMENT OF ZOOLOGY**



**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI,  
MAHARASHTRA**

**2020-2021**



## CERTIFICATE

This is to certify that Ms. Apurva Gangadhar Wath has worked under my guidance for her M.Sc. (Zoology) Semester-IV project entitled, “**Review of study of impact of mobile tower (Radiations) on birds**” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date 31/07/2021

Place: Amravati



Supervisor:

( Dr. J.D. Dhote)

Professor



Prof. Dr. R.G. Jadhao  
**Dr. R.G. Jadhao**  
Head Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology  
Amravati.

[Type here]

### **Conclusion :**

The main purpose of this review project was to identify the effect of mobile phone towers on the birds.

Cellular phones are essential to our lives for all the communications. However, their extensive usage and upgraded services continue to threaten the species diversity and the lives of different birds in the region. While the cellular phones cannot be completely wiped out of our lives, it is important to find an alternative technology that can keep the wireless communication strong but do not pose any risk to the lives of these little creatures around us. Bird diversity is important to keep the plant diversity and all the researchers must try to begin looking for alternative technology for safe surroundings.

Electromagnetic radiation from the mobile phone base stations in conjunction with these factors add up to the depreciation in their population. Therefore, the purpose of this research is to develop a base so as to improve the technology used in Telecommunications to make it safer and ecofriendly.

The research will examine the effects of EMR on house sparrows using the methods such as interviews of local people, environmentalists, and people from the telecommunication department along with the ethnographic field study which will include the methods covered under section 5.

By above observations and discussions it is concluded that, the electromagnetic signals are directly or indirectly associated with the decline in the diversity of birds.

**“Impact of Pandemic Covid-19 on Students of Higher Secondary  
School Education System: A Survey”**



**PROJECT WORK**

Submitted to Sant Gadge Baba Amravati University, Amravati

As a partial fulfillment of the degree of

**MASTER OF SCIENCE IN ZOOLOGY**

In the Faculty of Science

Submitted by

**Miss. Gauri Keshavrao Solanke**

P.G. Department of Zoology

M.Sc. II (Sem IV)

Supervisor

**Prof. Dr.R.G.Jadhao**

Head, P.G.Department of Zoology

**Shri Shivaji Science College, Amravati**

2020-2021

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This is to certify that Miss. Gauri Keshavrao Solanke has worked under my guidance for her M.Sc. (Zoology) Semester-IV project, "Impact of Pandemic Covid-19 on students of Higher Secondary School Education System: A Survey" for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date: 31/7/2021

Place: Amravati



Head

P.G.Department of Zoology

Shri Shivaji Science College,

**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
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Supervisor

**Prof. Dr. R.G.Jadhao**

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## CHAPTER -VI

### CONCLUSIONS:

#### **Providing equitable and inclusive access to digital learning resources:**

Partnerships with national educational media (TV channels, Radio channels) to reach the as many learners as possible;

Free online learning resources to reach all learners: Developing free educational content to be offered online. Facilitating partnerships with national telecom companies to provide free use of mobile data;

#### **Distribution of free electronic devices and learning material:**

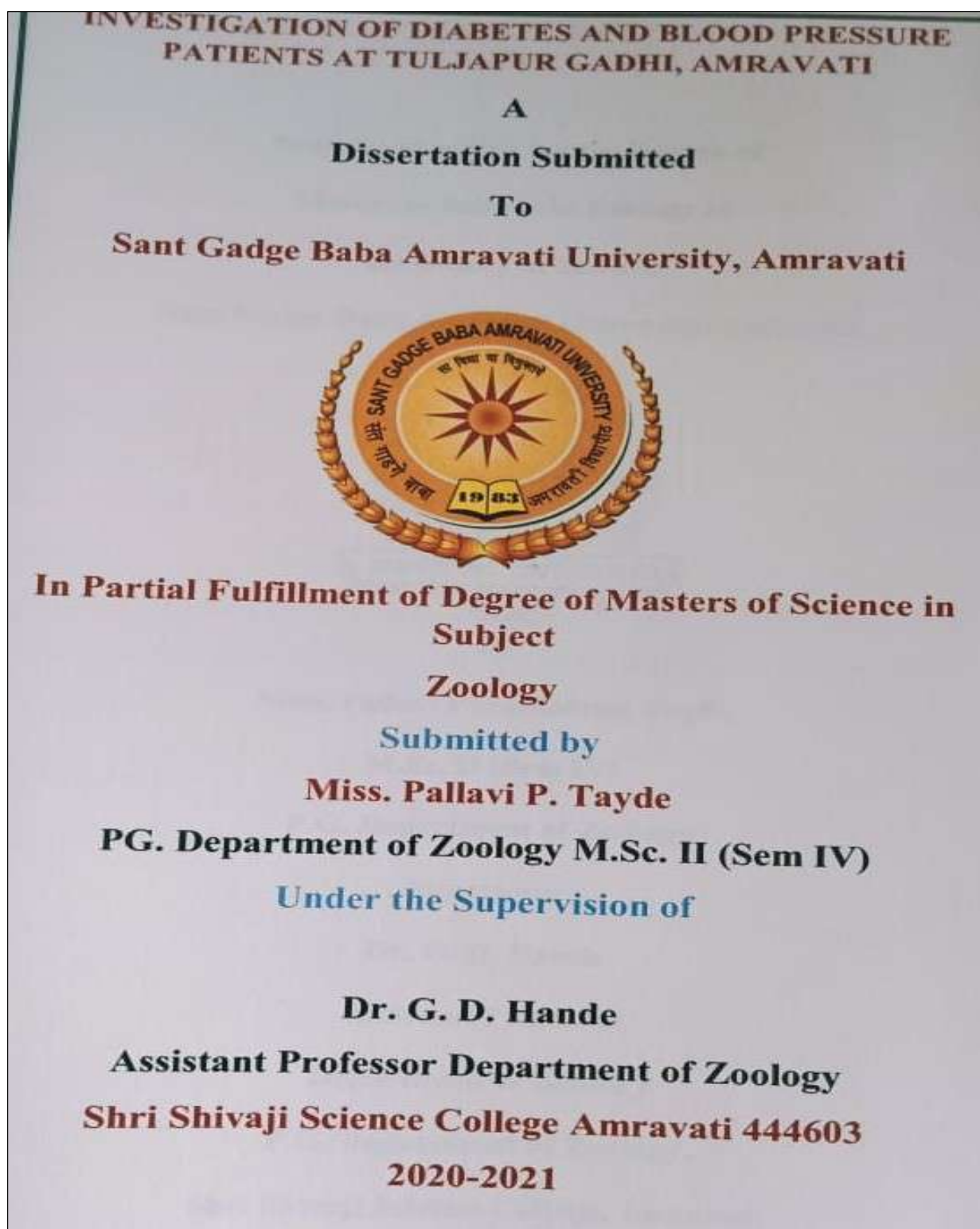
Distributing free electronic devices and providing internet connection to disadvantaged and vulnerable students, including in refugee camps and Roma settlements, and to students living in remote areas. Engaging in partnerships with grass-roots associations and other entities such as the country's National Air Force could ensure an efficient and broad distribution.

#### **Providing equitable and inclusive access to good learning conditions:**

The continuity of limited physical educational services for the most vulnerable: Keeping classrooms and quiet spaces to study open for some students in difficulty. Allowing travel of educational staff to remote areas to ensure the continuity of educational provisions when distance learning is not possible;

#### **Parental engagement:**


Encouraging such engagement to ensure support and good learning conditions to students, with a focus on vulnerable groups.



## CERTIFICATE

This is certify that Miss. Pallavi P. Tayde has completed her project work entitled **“INVESTIGATION OF DIABETES AND BLOOD PRESSURE PATIENTS AT TULJAPUR GADHI, AMRAVATI”** in the partial fulfillment for the degree of “Master of Science” in the subject Zoology of Sant Galge Baba Amravati University, Amravati. Under the guidance of **Dr. G. D. Hande, Assistant Professor, Shri Shivaji Science College, Amravati.** She has completed her project work satisfactorily and project is ready to evaluation.

Date: 31/07/2021

  
Head

**Dr. R.G. Jadhao**

Department of Zoology  
Professor & Head  
Dept. Of Zoology

Shri Shivaji Science College,  
Amravati

Shri Shivaji Science College, Amravati

## DISCUSSION AND CONCLUSION

There were positive correlations between duration of DM for both genders and their age; as well as NPSI and psychological distress. While both genders had a negative correlation between psychological distress and ADL. There were positive correlations between duration of DM and DM knowledge and between duration of DM and NPSI for male participants. Furthermore, there were negative correlations between age and DM knowledge, BMI and vitamin D status, as well as between ADL and NPSI for female participants. (Salwa Hassanein, Eman Gaber, Fatima Kazim 2018)

Blood Pressure (BP) is a vital bodily function and nurses. Need to understand its anatomy and physiology to assess the risks of blood pressure. Becoming too high or too low and to then Take the necessary precautions to reduce Risk of harm to the patient. (Mike Lowry 2016)

A non communicable disease or NCD is a disease which is not contagious. Such as Blood Pressure (B.P.) and Diabetics, associated factors such as person's lifestyle, genetics or environment are known to determine the likelihood of certain non communicable diseases. Of these three risk factors, 50% of all non communicable diseases are a result of poor lifestyle choices such as drug use, alcohol and tobacco use, diet, lack of exercise or stress management. NCDs such as hypertension, diabetes are recognized to exist in slums. This study was conducted in only one village of Amravati district. It was observed that 2% of the people were suffering from hypertension and only half of this were diagnosed earlier, while a further few were on treatment.



**“A Survey on impact of Online Teaching on Students Higher Education and Health in Amravati district during the Pandemic of COVID-19 ”**



**PROJECT WORK**

Submitted to Sant Gadge Baba Amravati University, Amravati

As a partial fulfillment of the degree of

**MASTER OF SCIENCE IN ZOOLOGY**

In the Faculty of Science

Submitted by

**Miss. Disha R. Bharsakale**

P.G. Department of zoology

M.Sc. II (Sem IV)

Supervisor

**Prof. Dr.R.G.Jadhao**

Head, P.G.Department of Zoology

**Shri Shivaji Science College, Amravati**

2020-2021

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This is to certify that **Miss. Disha R. Bharsakale** has worked under my guidance for his M.Sc. (Zoology) Semester-IV project, “A Survey on impact of Online Teaching on Students Higher Education and Health in Amravati district during the Pandemic of COVID-19 ” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date: 31/7/2021

Place: Amravati

  
Supervisor

Prof. Dr. R.G.Jadhao

P.G.Department of Zoology

**Dr. R.G. Jadhao**

Professor & Head  
Dept. Of Zoology  
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Head

P.G.Department of Zoology

Shri Shivaji Science College,

Amravati  
**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.

**Chapter V****CONCLUSION:**

The educational institution has a great role to play in boosting the country's economy. It has resulted in the great downfall of the economy. Educational institutions are facing a big crisis economically. What can be done to increase the economy in such a situation? Even to find a solution for this question seems to be impossible, because it is not just an economic loss but question of life and death. The only solution is to have social distancing and to bring out some creative measures to impart quality education. Not only the educational institutions, but also the students are facing massive problem coping with their studies.

Schools and college environment would be a best place for the students to learn. Their interest on their studies are all decreasing since they are getting used to the current situation. Global coordination and cooperation are the need of the hour to come up with best scientifically proven COVID-19 vaccine for the world. This could be the only measure to slow down the spread of the virus and also to regain the economic status which has shaken the world. It has to be a fresh start for the economy and the life of the upcoming generation.

COVID-19 has impacted immensely the education sector of Amravati district. Though it has created many challenges, various opportunities are also evolved. The Indian Govt. and different stakeholders of education have explored the possibility of Open and Distance learning by adopting different digital technologies to cope up with the present crisis of COVID-19. Amravati district is not fully equipped to make education reach all corners of the nation via digital platforms.

The students who aren't privileged like the others will suffer due to the present choice of digital platforms. The priority should be to utilize digital technology to create an advantageous position for millions of young students in India. It is need of the hour for the educational institutions to strengthen their knowledge and Information Technology infrastructure to be ready for facing COVID-19 like situations.

**“A PRELIMINARY SURVEY OF BACK MIGRATION  
OF WETLAND BIRDS IN CHATRI LAKE AMRAVATI,  
MAHARASHTRA”**

A dissertation submitted to  
Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Mr. Mohit Pramodrao Gawande**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. G.A. Wagh**

Professor

Department of Zoology

**Shri Shivaji Science College Amravati- 444603**

2020-2021

## Certificate

This is to certify **Mr. Mohit Pramodrao Gawande** that has completed her project work, entitled “**APRELIMINARY SURVEY OF BACK MIGRATION OF WETLAND BIRDS IN CHATRI LAKE AMRAVATI, MAHARASHTRA**” for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31/07/2021



**Dr. R.G. Jadhao**

**Dr. R.G. Jadhao**

Head & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology  
Amravati.

Shri Shivaji Science College,

Amravati

2020-2021

### CONCLUSION

Lake is an important habitat for wild birds, which could use it as a breeding, stopover and wintering site. We suggest that intensified urbanization and reclamation during the last few decades has driven away sensitive species, while synanthropic species have increased rapidly. Wetland restoration projects have benefited many bird species, especially water birds.

Distribution of different water bird species is highly dependent on human activities. Human requirements for buildings and transport infrastructure put high pressure on urban green space, to stop this process. We want to stress that urban planning and management decisions are already effective at comparatively fine scales. We regard general conservation efforts and we plan and manage urban green area as habitats for birds. So suggest recommendation for the surviving of bird diversity.

The study proved that the present ecological characteristics of the Chatri Lake made the birds unable to inhabit the lake throughout the year. Siltation, habitat degradation, encroachment in the name of industrial expansion, noise pollution and grazing are the major threats to the avifauna. The present study revealed that, though the Lake is highly disturbed it still provides some potential habitats for a few migratory as well as all residents, including some threatened species which have a declining population trend by providing food and space to breed.

It is the need of the hour to monitor systematically in the rapidly changing environment with a focused study on the avifauna of the region.

The common major threats found to be affecting the wetlands were fishing, poaching and pollution through festival waste, Local communities are unaware of the fact that the birds of importance are residing near their vicinity. Education and awareness among the local communities and promotion of tourism and nature interpretation activities will add to the employment as well as conservation of the birds at the same time.

In addition to that a detailed management action plan may be prepared for the protection of these Lakes from poachers and hunters, in which guidelines about the sustainable fishing may also be highlighted.

**REVIEW OF STUDY OF IMPACT OF MOBILE TOWER  
(RADIATION) ON BIRDS**

A dissertation submitted

To

**SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

In partial fulfillment of Degree of Master of Science in subject  
Zoology

Submitted by

Shraddha Rajendra Khanzode

Under the supervision of

**Dr. J. D. Dhote**

Professor

DEPARTMENT OF ZOOLOGY



**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI,  
MAHARASHTRA**

2020-2021

## CERTIFICATE

This is to certify that Miss. Shraddha Rajendra Khanzode has worked under my guidance for her M.Sc. (Zoology) Semester-IV project entitled, “Review of study of impact of mobile tower (Radiations) on birds” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date 31/07/2021

Place: Amravati



Supervisor:  
(Dr. J. D. Dhote)  
Professor



Dr. R.G. Jadhao  
Head & Professor  
Professor & Head  
Dept. Of Zoology  
Department of Zoology  
Shri Shivaji Science College,  
Amravati.



**Conclusion :**

The main purpose of this review project was to identify the effect of mobile phone towers on the birds.

Cellular phones are essential to our lives for all the communications. However, their extensive usage and upgraded services continue to threaten the species diversity and the lives of different birds in the region. While the cellular phones cannot be completely wiped out of our lives, it is important to find an alternative technology that can keep the wireless communication strong but do not pose any risk to the lives of these little creatures around us. Bird diversity is important to keep the plant diversity and all the researchers must try to begin looking for alternative technology for safe surroundings.

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By above observations and discussions it is concluded that, the electromagnetic signals are directly or indirectly associated with the decline in the diversity of birds.

REVIEW OF DIVERSITY OF HOUSE AND GARDEN SPIDERS FROM DARYAPUR, DISTRICT AMRAVATI,  
MAHARASHTRA

**Review of diversity of house and garden spider from  
Daryapur, Districts Amravati, Maharashtra**

A dissertation submitted to

Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Miss. Tejasweeni Nandkumar Yewale**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. R. A. Patil Bhagat**

Assistant Professor

**Department of Zoology**

**Shri Shivaji Science College Amravati- 444603**

2020-2021

REVIEW OF DIVERSITY OF HOUSE AND GARDEN SPIDERS FROM DARYAPUR, DISTRICT AMRAVATI,  
MAHARASHTRA

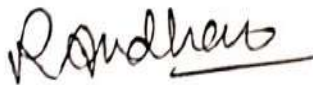
## Certificate

This is to certify that Miss. Tejasweeni Nandkumar Yewale has completed her project work, **Review of diversity of house and garden spider from Daryapur, District Amravati, Maharashtra** for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31/07/2021

  
Dr. R.G. Jadhao  
**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
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Department of Zoology

Shri Shivaji Science College,

Amravati

**REVIEW OF DIVERSITY OF HOUSE AND GARDEN SPIDERS FROM DARYAPUR, DISTRICT AMRAVATI, MAHARASHTRA**

### Summary and conclusion

The main purpose of this review project was to identify the spiders which are present in-home garden region of Daryapur. During the last four decades the studies of spiders with respect to their systematics have become very important and undertaken by many Arachnologists all over the world, along with others engaged in the understanding of different other aspects of their like morphology, taxonomy, web, behavior, etc.

In the introduction, there is brief account of spider's origin, morphology, anatomy, reproductive rituals, importance of spider in Agriculture, environment, etc. Spiders are classified according to their common names. Wolf spiders, jumping spiders, Crab spiders, orb web spiders, ground spiders were described briefly with examples.

In the methodology chapter we seen discussion about practical arachnology in which the methods utilised collecting spiders, rearing techniques, like, pitfall and trap sweep net methods are followed for collecting various spider's species growing on different habitations of Daryapur region.

In this study total 8 families under 18 genera were recorded from in and around Daryapur region. The species recorded include: *Neoscona species*, *Plexippus sp.*, *Menemerus sp.*, *Telamonia sp.*, *Phintela sp.*, *Herpyllus sp.*, *Leucauge sp.*, *Oxyopus sp.*, *Olios sp.*, *Zoasis sp.*, etc.

From this activity, students will gain a better understanding of: -

The organization of biological communities with regards to food-based interactions - Food web construction and organization of spiders - The importance of spiders to the stability of their communities and to farmers in their farm fields for trapping the harmful insects for crops.

The study also reveals the potentiality of the state as the reservoir of diversified spider fauna. Detailed studies on the spider fauna of the state and inclusion of spiders in conservational strategies are recommended (Dey et al., 2013). We also found many spider species from Salticidae

**DEPARTMENT OF ZOOLOGY  
SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI, MAHARASHTRA**



**PRACTICAL RECORD**

**Practical – VIII**

**PROJECT WORK**

**A survey on sickle cell anemia in Chandur  
Railway Tehsil of Amravati district,  
Maharashtra.**

**M. Sc. (Zoology) Semester - IV**

**2020-21**

**Submitted by**

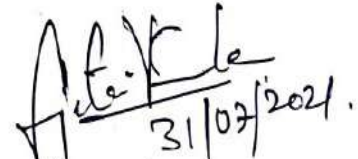
**Mr. Pratik S. Kolhe**

**Roll No.**

**CERTIFICATE**

This is to certify that Mr. Pratik S. Kolhe has worked under my guidance for his M.Sc. (Zoology) Semester-IV project entitled, “-A survey on sickle cell anemia in Chandur Railway Tehsil of Amravati district, Maharashtra.” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project work satisfactorily and it is ready for evaluation.

  
31/07/2021.  
Supervisor:

Date: 31/07/2021

(Dr. S. J. Kawade)

Place: Amravati

Assistant Professor



Dr. R. G. Jadhao

**Dr. R.G. Jadhao**  
Head & Professor  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology,  
Amravati.

In this present study it was found that overall prevalence of sickle cell diseases was 1%. The study reported 775 sickle cell anemia patients in the region of which 726 were found to be carrier and 49 were sufferers. A questionnaire of Sickle Cell was prepared with a view to collect data on the disease status of the suffers and carrier. The carrier and suffers data were separately represented. Observed symptoms of suffer patients are weakness, body pain, blockage of veins and muscle, eye vision, paralysis, shortage of blood, RBC produce rate is low, frequent blood transfusions.

In the study it was found that sickle cell minor or carrier patients are more as compared to the affected person with sickle cell anemia major. Also females are found to be more affected than males.

Sickle cell anemia is genetic disorders. If a family member is symptomatic for sickle cell, can immediately consult a genetic counselor and also a physician. This can help us understand the risk of having a child with sickle cell anemia.

To conclude, sickle cell anemia is a chronic life-threatening inherited disease. Thus a better understanding, management and awareness of the disease is required.

Impact analysis of prophylactic treatment reveals recovery in sufferers. However, the recovery is yet to be improved in order to get satisfactory treatment outcome. Thus extensive medical research is required from recovery of sickle cell anemia.

ASSESSMENT ON THYROID DISORDERS FROM YESURNA, AMRAVATI



DISSERTATION

AS A PARTIAL FULFILLMENT OF DEGREE OF  
MASTER OF SCIENCE IN ZOOLOGY

SUBMITTED TO

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

SUBMITTED BY

MISS. ASHWINI A. KALE  
M.SC II (ZOOLOGY)

SUPERVISOR

DR.MRS.G. D. HANDE  
ASSISTANT PROFESSOR,  
P.G. DEPARTMENT OF ZOOLOGY

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

( 2020-2021 )



**CERTIFICATE**

This is certify that **Miss. Ashawini Anilrao Kale** has completed her project work entitled "**ASSESSMENT ON THYROID DISORDERS FROM YESURNA, AMRAVATI** " in the partial fulfillment for the degree of "Master of Science" in the subject Zoology of Sant Galge Baba Amravati University, Amravati. Under the guidance of **Dr. G. D. Hande**, Assistant Professor, **Shri Shivaji ScienceCollege**, Amravati. She has completed her project work satisfactorily and project is ready to evaluation.

Place: **Amravati**

Date: **-31/07/2021**



**Dr. R.G. Jadhao**

HOD

**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.

**Shri.Shivaji Science Collage, Amravati**

### DISCUSSION & CONCLUSION

The issue of screening thyroid dysfunction has been a difficult and contentious one for several years. And it has been debated in the literature and among those group who is promulgate clinical guideline.

From the study, we conclude patients suffering from thyroid dysfunction mainly involve sufferer age group of 80 to 100 years, prominently. Major causes of thyroid disorder is iodine deficiency. Among the 50 candidate I was interacted. It will conclude that higher risk of developing thyroid disease.1) if you have a family history of thyroid disorder.2) have medical condition such as diabetes primary adrenal insufficiency.3)Take a medication that's high in the iodine.4) older than 60 year especially on women.

Based on the data of 50 adults the It is highly recommendable from my end that quickly check the thyroid with a physical exam at nearest health care provider office. It is Simpler and less expensive. Every Individual above 60 year must be give through it. It is painless test where your provider feels your neck for or enlargement of thyroid..

This study demonstrates the effect of hyperthyroid on thyroid gland blood flow, thyroid function tests and thyroid Scintigraphy.(A.H Elggzzar, 2008)


The present literature review several categories of photochemical that may have an impact on thyroid physiology and disease and discussed their potential effect on the Nrf<sub>2</sub> pathway.(Anapaunkov, 2019)

Thyroid disorders may affect all of the organ systems of the body and they are also highly associated with a wide variety of skin disorders. Although cutaneous manifestations of thyroid diseases are well described, a better understanding of these processes is needed. Several hypothesis have been proposed to explain the pathogenesis of skin manifestations of thyroid disease, and indeed it is likely that more than one mechanism is responsible for these clinical manifestations. It is conceivable but unproven that cellular immunity initiated in the thyroid gland could trigger development of the skin lesions In addition, recent studies demonstrated the expression of thyroid factor-1, thyroglobulin and thyroperoxidase in the human skin.(Shashank R. Joshi, 2011)

THE STUDY OF DIVERSITY OF SPIDER FROM HOME GARDEN REGIONS OF AMRAVATI MAHARASHTRA

**Review on the study of diversity of spider from home garden regions of Amravati Maharashtra**

Project submitted for the Degree of Master of Science in Zoology in the faculty of Science Sant Gadge Baba Amravati University Amravati



*Submitted by*  
**MISS. SHWETA VIJAY TELGOTE**  
M.Sc. II (Sem IV)  
P.G. Department of Zoology

*Supervisor*  
**Dr. R. A. Patil Bhagat**  
Assistant Professor  
Department of Zoology

**Shri Shivaji Science College, Amravati**  
**2020-2021**

REVIEW OF THE STUDY OF DIVERSITY OF SPIDER FROM HOME GARDEN REGIONS OF AMRAVATI MAHARASHTRA


# CERTIFICATE

This is to certify that **Miss. Shweta Vijay Telgote** has completed her project work, “**Review on the study of diversity of spider from home garden regions of Amravati**” Maharashtra. For partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project satisfactorily and project is ready for evaluation.

Date: 31/07/2021

Place: Amravati

  
31/07/2021  
**Dr. R. G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.  
Shri Shivaji Science College,  
Amravati.  
2020-2021

## **5. SUMMARY AND CONCLUSION**

The main purpose of this review project was to identify the spiders which are present in-home garden region of Amravati. During the last four decades the studies of spiders with respect to their systematic have become very important and undertaken by many Archeologists all over the world, along with others engaged in the understanding of different other aspects of their like morphology, taxonomy, web, behavior, etc.

In the introduction, there is brief account of spiders' origin, morphology, anatomy, reproductive rituals, importance of spider in Agriculture, environment, etc. Spiders are classified according to their common names. Wolf spiders, jumping spiders, Crab spiders, orb web spiders, ground spiders were described briefly with examples.

In the methodology chapter we seen discussion about practical archeology in which the methods utilized collecting spiders, rearing techniques, like, pitfall and trap sweep net methods are followed for collecting various spiders species growing on different habitations of Amravati.

In these study total 8 families under 18 genera were recorded from in and around Amravati region. The species recorded include : *Nosecone species*, *Plexippus sp.*, *Monomers sp.*, *Telamonia sp.*, *Piniella sp.*, *Herpyllus sp.*, *Leagus sp.*, *Olympus sp.*, *Oleos sp.*, *Oasis sp.*, etc

Conclusion: From this activity, students will gain a better understanding of:  
 - The organization of biological communities with regards to food based interactions - Food web construction and organization of spiders - The importance of spiders to the stability of their communities and to farmers in their farm fields for trapping the harmful insects for crops.

**DIVERSITY OF FRESHWATER FISHES FROM  
ARNI DIST.YAVATMAL**

**A Dissertation Submitted**

**To**



**Sant Gadge Baba Amravati University, Amravati**

**In Partial Fulfillment of Degree of Masters of Science in Subject**

**Zoology**

**Submitted by**

**Miss. Kajal S. Marbate**

**PG. Department of Zoology M.Sc. II (Sem IV)**

**Under the Supervision of**

**Dr. G. D. Hande**

**Assistant Professor**

**Department of Zoology**

**Shri Shivaji Science College Amravati 444603**

**2020-2021**

**CERTIFICATE**

This is to certify that Miss.Kajal Shankar Marbate has completed her project work entitled "**DIVERSITY OF FRESHWATER FISHES FROM ARNI DIST.YAVATMAL**" in the partial fulfilment for the degree of "Master of Science in the subject Zoology of Sant Gadge Baba Amravati University, Under the guidance of Dr. G. D. Hande Shri Shivaji Science College, Amravati She has completed her project work satisfactorily and project is ready for evaluation.

Date: 31/07/2021

Dr. R.G.Jadhao



Head

**Dr. R.G. Jadhao**

Professor & Head  
Dept. Of Zoology

Shri Shivaji Science College,  
Amravati.

Department of Zoology

Shri Shivaji Science College,

Amravati.

## DISCUSSION AND CONCLUSION

After survey the above fresh water fishes are the Findings of the reports. In was obtained in the given table present regional survey recorded only 9 species from Local fishmarket area. (Rahman, 2005)

However, regional diversity and availability of fish based on market, marketing is scarce and an attempt was made to document regional fish diversity based on landing, supply chain and market, though the study did not focused on marketing of fish. During the study period, a total of 9 species under 6 families were found. Most of the fresh water species were available in rivers, streams, canals and ponds. However, secondary data indicated that not all the species are available all the seasons. This, coupled with increased fishing pressure is reducing fisheries diversity in the study areas. Major dominant species were observed in the present study area. (Rahman, 2005). Fish habitat destruction by developmental works like roads, embankments, drainage and flood control related constructions and natural siltation along with over-fishing have been commonly cited as causes of the deterioration of the country's resources (Ashwani Kusmar and Anish Dua 2012).

A total of 9 fish species were found in the study areas. The list of fishes available during survey period in the selected areas is shown in table. As there were fishes from diverse ecosystem, the available fishes were categorized under freshwater basis. In table distribution and conservation status of collected fresh water species in the study areas are presented. Among total number of species found during the study, Total 9 freshwater species.

Cyprinidae(4), clariidae(1), Pangasiidae(1), Anguillidae(1), Channidae(1), Cichlidae(1). The list of family in species in found area. family based number of fish species in study area are shown in Table. In conservation status of the fish species found in the studied area are shown. (Khan *et al.* 2000).



**REVIEW OF STUDY OF IMPACT OF MOBILE TOWER  
(RADIATION) ON BIRDS**

**A dissertation submitted  
To  
SANT GADGE BABA AMRAVATI UNIVERSITY,  
AMRAVATI**

**In partial fulfillment of Degree of Master of Science in subject  
Zoology**

**Submitted by  
Ms. Vaishnavi Subhash Dhamande**

**Under the supervision of  
Dr. J. D. Dhote  
Professor  
DEPARTMENT OF ZOOLOGY**



**SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI,  
MAHARASHTRA**

**2020-2021**

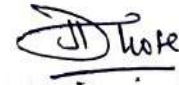
**CERTIFICATE**

This is to certify that Ms.Vaishnavi S. Dhamande has worked under my guidance for her M.Sc. (Zoology) Semester-IV project entitled, “Review of study of impact of mobile tower (Radiations) on birds” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date 31/07/2021

Place: Amravati



Supervisor:

(Dr. J.D. Dhote)

Professor



Dr. R.G. Jadhao

**Dr. R.G. Jadhao**  
Head & Professor,  
Professor & Head  
Dept. of Zoology  
Department of Zoology, College,  
Shri Shivaji Science College,  
Amravati.

**Conclusion :**

The main purpose of this review project was to identify the effect of mobile phone towers on the birds.

Cellular phones are essential to our lives for all the communications. However, their extensive usage and upgraded services continue to threaten the species diversity and the lives of different birds in the region. While the cellular phones cannot be completely wiped out of our lives, it is important to find an alternative technology that can keep the wireless communication strong but do not pose any risk to the lives of these little creatures around us. Bird diversity is important to keep the plant diversity and all the researchers must try to begin looking for alternative technology for safe surroundings.

Electromagnetic radiation from the mobile phone base stations in conjunction with these factors add up to the depreciation in their population. Therefore, the purpose of this research is to develop a base so as to improve the technology used in Telecommunications to make it safer and ecofriendly.

The research will examine the effects of EMR on house sparrows using the methods such as interviews of local people, environmentalists, and people from the telecommunication department along with the ethnographic field study which will include the methods covered under section 5.

By above observations and discussions it is concluded that, the electromagnetic signals are directly or indirectly associated with the decline in the diversity of birds.

# **A Preliminary Study of Saurian Fauna in the Daryapur Area, Amravati District, Maharashtra**

A dissertation submitted to

Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Mr. Abhishek.A.Dhikar**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. G.A. Wagh**

Professor

Department of Zoology

**Shri Shivaji Science College Amravati – 444603.**

2020-2021

## Certificate

This is to certify that **Mr. Abhishek.A.Dhikar** has completed his project work, entitled “**A Preliminary Study of Saurian Fauna in the Daryapur Area, Amravati District, Maharashtra**” for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31-07-2021



Dr. R.G. Jadhao

**Dr. R.G. Jadhao**  
Head  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.

Shri Shivaji Science College, Amravati

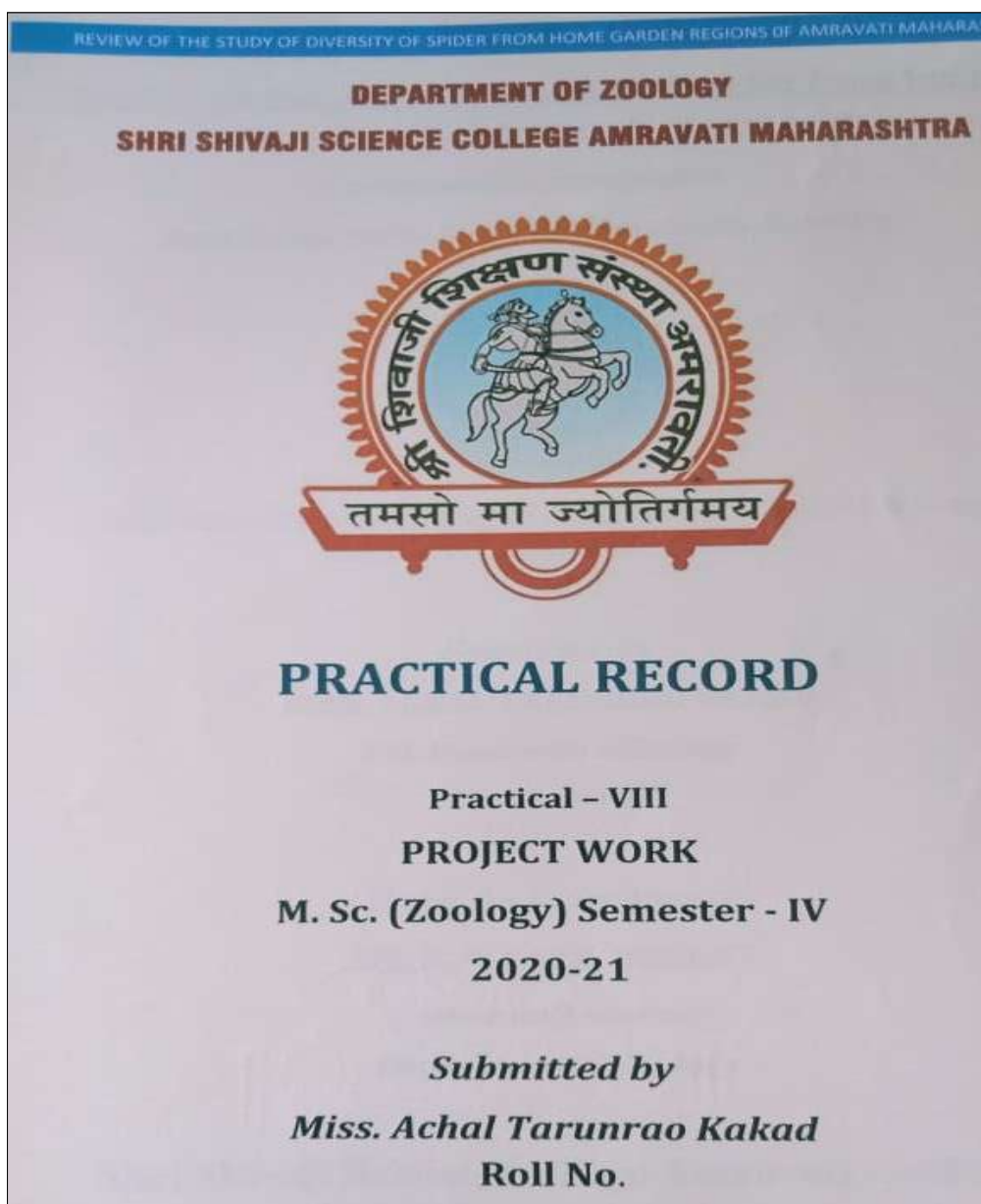
**CONCLUSION:**

The observation shown that the lizards diversity richness in study area. It was a preliminary study on the saurian faunal diversity but further study is need to explore the diversity of lizards . to purpose several conservation strategies in study area. Having small land area, where the primary forest vegetation is rapidly declining and the lizard population is facing an imminent threat.

The chief impact of lizards on humans is positive, as they are the main predators of pest species. Humans also keep many lizards as pets and some species are even eaten as food. The increasing population of India has produced increased development and road networks that have brought worrying pressure on population of flora and fauna in its biodiversity hotspots.

Fan Throated Lizard *Sitana deccanensis* and The banded ground Gecko *Geckoella deccanensis* recorded first time in Daryapur area of Amravati District, Maharashtra.

For the better estimation and complete checklist of saurian fauna of the study area needs a long term study.



REVIEW OF THE STUDY OF DIVERSITY OF SPIDER FROM HOME GARDEN REGIONS OF AMRAVATI MAHARASHTRA

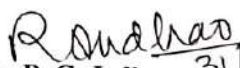
# CERTIFICATE

This is to certify that Miss. Achal Tarunrao Kakad has completed her project work, “Review on the study of diversity of spider from home garden regions of Amravati” Maharashtra. For partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project satisfactorily and project is ready for evaluation.

Date: 31/07/2021

Place: Amravati

  
Dr. R. G. Jadhao 31/07/2021  
**Dr. R. G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati  
Amravati.  
2020-2021



## 5. SUMMARY AND CONCLUSION

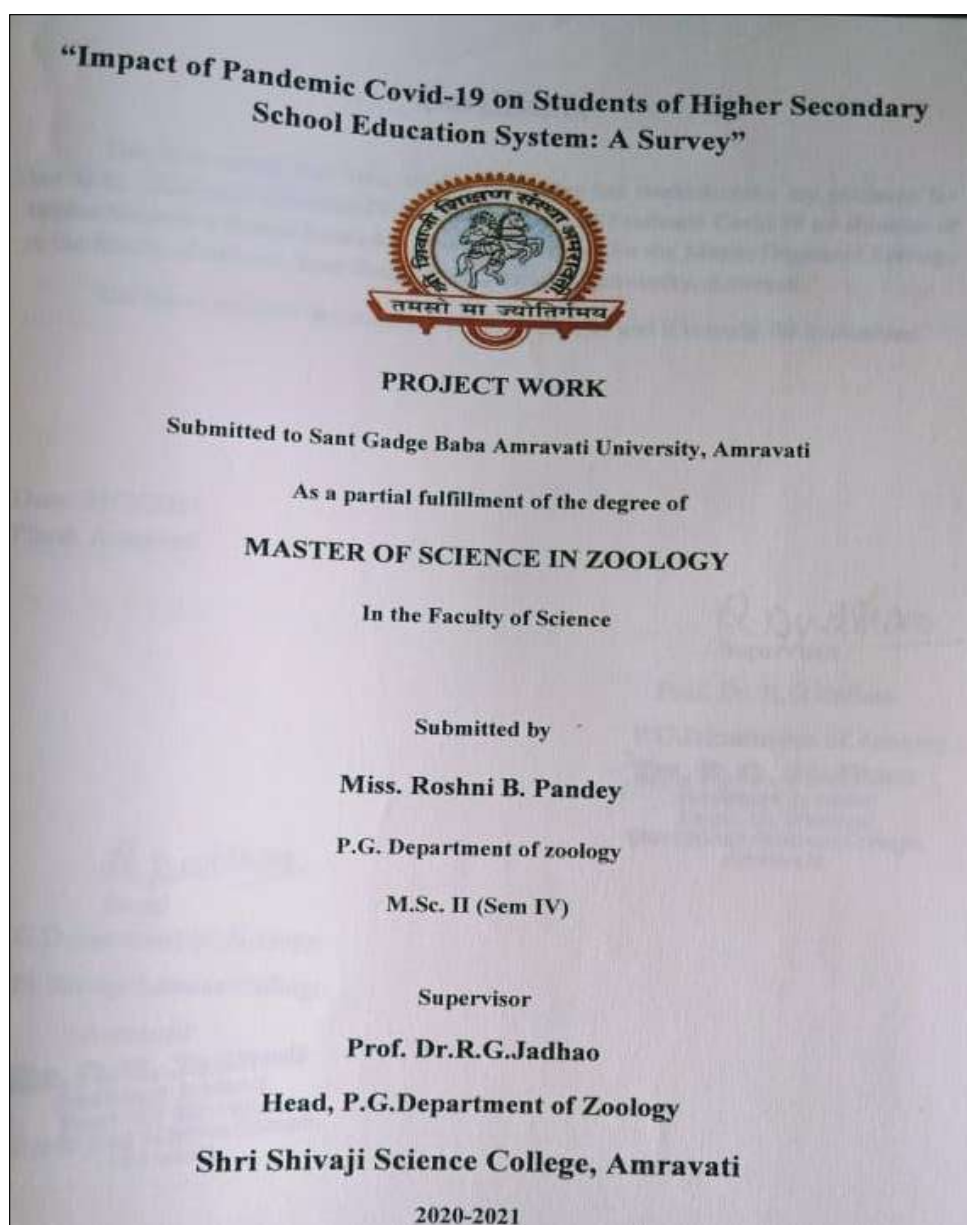
The main purpose of this review project was to identify the spiders which are present in-home garden region of Amravati. During the last four decades the studies of spiders with respect to their systematic have become very important and undertaken by many Archeologists all over the world, along with others engaged in the understanding of different other aspects of their like morphology, taxonomy, web, behavior, etc.

In the introduction, there is brief account of spiders' origin, morphology, anatomy, reproductive rituals, importance of spider in Agriculture, environment, etc. Spiders are classified according to their common names. Wolf spiders, jumping spiders, Crab spiders, orb web spiders, ground spiders were described briefly with examples.

In the methodology chapter we seen discussion about practical archeology in which the methods utilized collecting spiders, rearing techniques, like, pitfall and trap sweep net methods are followed for collecting various spiders species growing on different habitations of Amravati.

In these study total 8 families under 18 genera were recorded from in and around Amravati region. The species recorded include : ***Nosecone species***, ***Plexippus sp.***, ***Monomers sp.***, ***Telamonia sp.***, ***Piniella sp.***, ***Herpyllus sp.***, ***Leakage sp.***, ***Olympus sp.***, ***Oleos sp.***, ***Oasis sp.***, etc

Conclusion: From this activity, students will gain a better understanding of:  
 - The organization of biological communities with regards to food based interactions -  
 Food web construction and organization of spiders - The importance of spiders to the stability of their communities and to farmers in their farm fields for trapping the harmful insects for crops.



## Certificate

This is to certify that Miss. Roshni B. Pandey has worked under my guidance for her M.Sc. (Zoology) Semester-IV project, “Impact of Pandemic Covid-19 on students of Higher Secondary School Education System: A Survey” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

Date: 31/7/2021

Place: Amravati

  
Supervisor

Prof. Dr. R.G.Jadhao

P.G.Department of Zoology

**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.

  
Head

P.G.Department of Zoology

Shri Shivaji Science College,

Amravati

**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Amravati.

## CHAPTER -VI

### CONCLUSION:

#### **Providing equitable and inclusive access to digital learning resources:**

Partnerships with national educational media (TV channels, Radio channels) to reach the as many learners as possible;

Free online learning resources to reach all learners: Developing free educational content to be offered online. Facilitating partnerships with national telecom companies to provide free use of mobile data;

#### **Distribution of free electronic devices and learning material:**

Distributing free electronic devices and providing internet connection to disadvantaged and vulnerable students, including in refugee camps and Roma settlements, and to students living in remote areas. Engaging in partnerships with grass-roots associations and other entities such as the country's National Air Force could ensure an efficient and broad distribution.

#### **Providing equitable and inclusive access to good learning conditions:**

The continuity of limited physical educational services for the most vulnerable: Keeping classrooms and quiet spaces to study open for some students in difficulty. Allowing travel of educational staff to remote areas to ensure the continuity of educational provisions when distance learning is not possible;

#### **Parental engagement:**

Encouraging such engagement to ensure support and good learning conditions to students, with a focus on vulnerable groups.

**Review of diversity of house and garden spider from  
Daryapur, Districts Amravati, Maharashtra**

A dissertation submitted to  
Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Miss. Namrata Subhash Ingale**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. R. A. Patil Bhagat**

Assistant Professor

**Department of Zoology**

**Shri Shivaji Science College Amravati- 444603**

**2020-2021**

REVIEW OF DIVERSITY OF HOUSE AND GARDEN SPIDERS FROM DARYAPUR, DISTRICT AMRAVATI,  
MAHARASHTRA

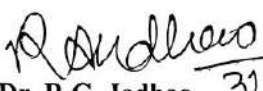
## Certificate

This is to certify that **Miss. Namrata Subhash Ingale** has completed her project work, **Review of diversity of house and garden spider from Daryapur, District Amravati, Maharashtra** for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

She has completed her project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31/07 2021

  
Dr. R.G. Jadhao 31/07/20  
**Dr. R.G. Jadhao**  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology  
Amravati.

Shri Shivaji Science College,  
Amravati

## REVIEW OF DIVERSITY OF HOUSE AND GARDEN SPIDERS FROM DARYAPUR, DISTRICT AMRAVATI, MAHARASHTRA

**Summary and conclusion**

The main purpose of this review project was to identify the spiders which are present in-home garden region of Daryapur. During the last four decades the studies of spiders with respect to their systematics have become very important and undertaken by many Arachnologists all over the world, along with others engaged in the understanding of different other aspects of their like morphology, taxonomy, web, behavior, etc.

In the introduction, there is brief account of spider's origin, morphology, anatomy, reproductive rituals, importance of spider in Agriculture, environment, etc. Spiders are classified according to their common names. Wolf spiders, jumping spiders, Crab spiders, orb web spiders, ground spiders were described briefly with examples.

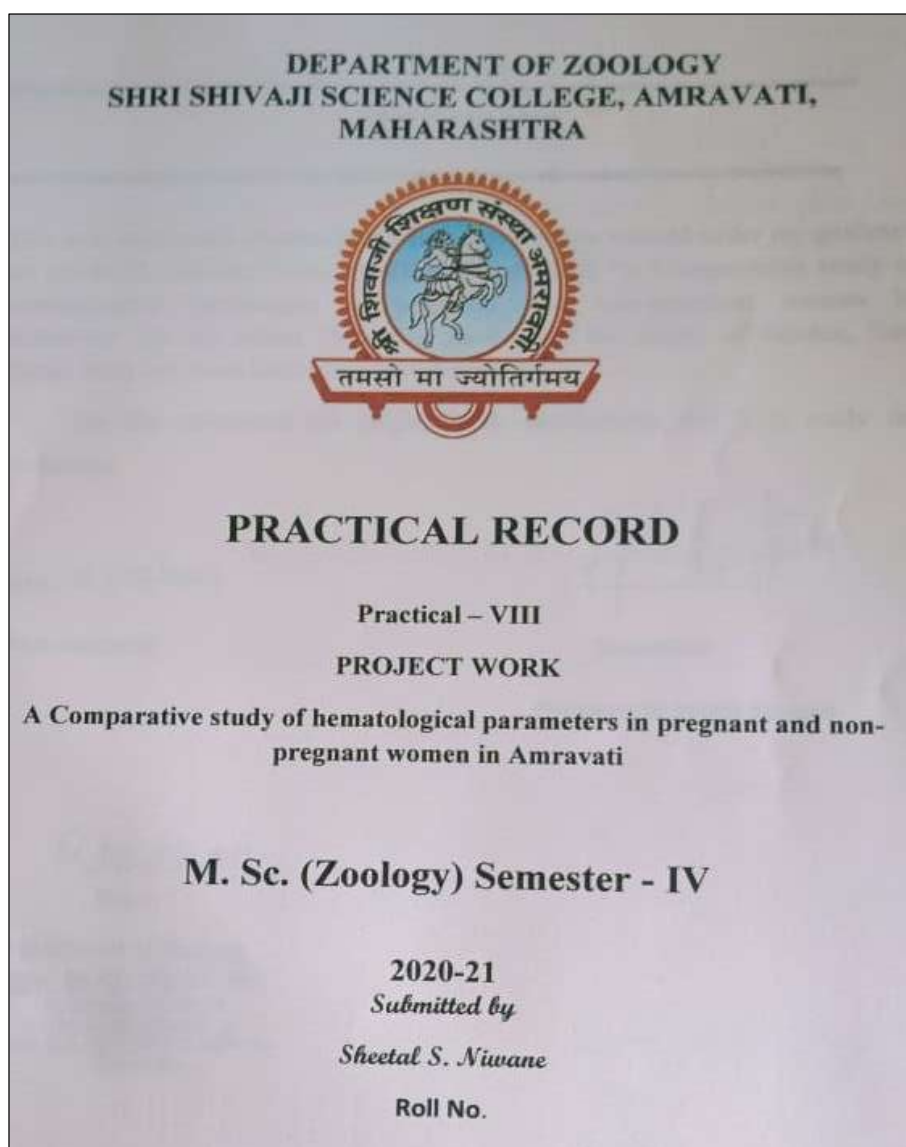
In the methodology chapter we seen discussion about practical arachnology in which the methods utilized collecting spiders, rearing techniques, like, pitfall and trap sweep net methods are followed for collecting various spider's species growing on different habitations of Daryapur region.

In this study total 8 families under 18 genera were recorded from in and around Daryapur region. The species recorded include: *Neoscona species*, *Plexippus sp.*, *Menemerus sp.*, *Telamonia sp.*, *Phintela sp.*, *Herpyllus sp.*, *Leucauge sp.*, *Oxypus sp.*, *Olios sp.*, *Zoasis sp.*, etc.

From this activity, students will gain a better understanding of: -

The organization of biological communities with regards to food-based interactions - Food web construction and organization of spiders - The importance of spiders to the stability of their communities and to farmers in their farm fields for trapping the harmful insects for crops.

The study also reveals the potentiality of the state as the reservoir of diversified spider fauna. Detailed studies on the spider fauna of the state and inclusion of spiders in conservational strategies are recommended (Dey *et al.*, 2013). We also found many spider species from Salticidae



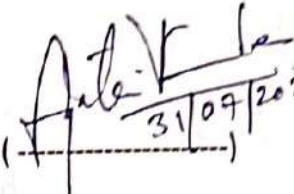


## CERTIFICATE

This is to certify that **Sheetal Sudhakar Niwane** has worked under my guidance for her M.Sc. (Zoology) Semester-IV project entitled, “**A Comparative study of hematological parameters in pregnant and non-pregnant women in Amravati**” for the Master Degree of Zoology in the faculty of Science, Sant Gadge Baba Amravati University, and Amravati.

She has completed her project work satisfactorily and it is ready for evaluation.

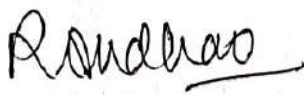
Date: 31/07/2021

  
 31/07/2021

Place: Amravati

Supervisor

Professor Dr Sujata Kawade

  
 Head

Department of Zoology  
**Dr. R.G. Jadhao**  
 Professor & Head  
 Dept. Of Zoology  
 Shri Shivaji Science College,  
 Amravati.

Blood act as a pathological reflector of the status of the exposed animals to toxicants and other conditions. The examination of blood provides the opportunity to clinically investigate the presence of metabolites and other constituents in the body and plays a vital role in the physiological, nutritional and pathological status. Blood constituents change in relation to the physiological status of an animal. These changes are important in assessing the response of an individual to various physiological situations.

In the present study, during pregnancy, changes occurred in haematological indices such as red bloodcell (RBC) count, hemoglobin (Hb) concentration, platelet (PLT) count, and white blood cell (WBC) count. Some of these are decreased for example, RBC and PLT counts-partly as a result of the physiological hemodilution that occurs in pregnancy, while others are increased, such as the WBC count.

Thus it can be concluded that a significant changes in the haematological parameters at different trimesters of pregnancy in pregnant women. So it is essential to monitor and manage these parameters during pregnancy. These deviations in parameter may be used as markers that reflect the pathophysiological changes in mother and fetus.

**“A PRELIMINARY SURVEY OF BACK MIGRATION OF  
WETLAND BIRDS IN CHATRI LAKE AMRAVATI,  
MAHARASHTRA”**

A dissertation submitted to  
Sant Gadge Baba Amravati University, Amravati



**In partial fulfillment of Degree of Masters of Science in Subject Zoology**

Submitted by

**Mr. Jagdev D. Iwane**

P G. Department of Zoology

M.Sc. II (Sem IV)

Under the Supervision of

**Dr. G.A. Wagh**

Professor

**Department of Zoology**

**Shri Shivaji Science College Amravati- 444603**

2020-2021

## Certificate

This is to certify **Mr. Jagdev D. Iwane** that has completed her project work, entitled “**A PRELIMINARY SURVEY OF BACK MIGRATION OF WETLAND BIRDS IN CHATRI LAKE AMRAVATI, MAHARASHTRA**” for partial fulfillment of the Degree of Masters of Science in Zoology in the faculty of Science, Sant Gadge Baba Amravati University, Amravati.

He has completed his project satisfactorily and project is ready for evaluation.

Place: Amravati

Date: 31/07/2021



**Dr. R.G. Jadhao**

**Dr. R.G. Jadhao**  
Head  
Professor & Head  
Dept. Of Zoology  
Shri Shivaji Science College,  
Department of Zoology,  
Amravati.

Shri Shivaji Science College, Amravati

### CONCLUSION

Lake is an important habitat for wild birds, which could use it as a breeding, stopover and wintering site. We suggest that intensified urbanization and reclamation during the last few decades has driven away sensitive species, while synanthropic species have increased rapidly. Wetland restoration projects have benefited many bird species, especially water birds.

Distribution of different water bird species is highly dependent on human activities. Human requirements for buildings and transport infrastructure put high pressure on urban green space, to stop this process. We want to stress that urban planning and management decisions are already effective at comparatively fine scales. We regard general conservation efforts and we plan and manage urban green area as habitats for birds. So suggest recommendation for the surviving of bird diversity.

The study proved that the present ecological characteristics of the Chatri Lake made the birds unable to inhabit the lake throughout the year. Siltation, habitat degradation, encroachment in the name of industrial expansion, noise pollution and grazing are the major threats to the avifauna. The present study revealed that, though the Lake is highly disturbed it still provides some potential habitats for a few migratory as well as all residents, including some threatened species which have a declining population trend by providing food and space to breed.

It is the need of the hour to monitor systematically in the rapidly changing environment with a focused study on the avifauna of the region.

The common major threats found to be affecting the wetlands were fishing, poaching and pollution through festival waste, Local communities are unaware of the fact that the birds of importance are residing near their vicinity. Education and awareness among the local communities and promotion of tourism and nature interpretation activities will add to the employment as well as conservation of the birds at the same time.

In addition to that a detailed management action plan may be prepared for the protection of these Lakes from poachers and hunters, in which guidelines about the sustainable fishing may also be highlighted.

**“A Survey on impact of Online Teaching on Students Higher Education and Health in Amravati district during the Pandemic of COVID-19 ”**



**PROJECT WORK**

Submitted to Sant Gadge Baba Amravati University, Amravati

As a partial fulfillment of the degree of

**MASTER OF SCIENCE IN ZOOLOGY**

In the Faculty of Science

Submitted by

**Mr. Ashvin Diliprao Kale**

P.G. Department of zoology

M.Sc. II (Sem IV)

Supervisor

**Prof. Dr.R.G.Jadhao**

Head, P.G.Department of Zoology

**Shri Shivaji Science College, Amravati**

2020-2021

**CERTIFICATE**

This is certify that **Miss. Ashawini Anilrao Kale** has completed her project work entitled "**ASSESSMENT ON THYROID DISORDERS FROM YESURNA, AMRAVATI** " in the partial fulfillment for the degree of "Master of Science" in the subject Zoology of Sant Galge Baba Amravati University, Amravati. Under the guidance of **Dr. G. D. Hande**, Assistant Professor, Shri Shivaji ScienceCollege, Amravati. She has completed her project work satisfactorily andproject is ready to evaluation.

Place: Amravati

Date:-31/07/2021



Dr. R.G.Jadhao

**Dr. R.G. Jadha**

HOD

Professor & Head  
Dept. Of Zoology

Department Of Zoology, Shri Shivaji Science Cole  
Amravati.

**Shri.Shivaji Science Collage,Amravati**

### DISCUSSION & CONCLUSION

The issue of screening thyroid dysfunction has been a difficult and contentious one for several years. And it has been debated in the literature and among those group who is promulgate clinical guideline.

From the study, we conclude patients suffering from thyroid dysfunction mainly involve sufferer age group of 80 to 100 years, prominently. Major causes of thyroid disorder is iodine deficiency. Among the 50 candidate I was interacted. It will conclude that higher risk of developing thyroid disease.1) if you have a family history of thyroid disorder.2) have medical condition such as diabetes primary adrenal insufficiency.3)Take a medication that's high in the iodine.4) older than 60 year especially on women.

Based on the data of 50 adults the It is highly recommendable from my end that quickly check the thyroid with a physical exam at nearest health care provider office. It is Simpler and less expensive. Every Individual above 60 year must be give through it. It is painless test where your provider feels your neck for or enlargement of thyroid..

This study demonstrates the effect of hyperthyroid on thyroid gland blood flow, thyroid function tests and thyroid Scintigraphy.(A.H Elggzzar, 2008)

The present literature review several categories of photochemical that may have an impact on thyroid physiology and disease and discussed their potential effect on the  $NrF_2$  pathway.(Anapaunkov, 2019)

Thyroid disorders may affect all of the organ systems of the body and they are also highly associated with a wide variety of skin disorders. Although cutaneous manifestations of thyroid diseases are well described, a better understanding of these processes is needed. Several hypothesis have been proposed to explain the pathogenesis of skin manifestations of thyroid disease, and indeed it is likely that more than one mechanism is responsible for these clinical manifestations. It is conceivable but unproven that cellular immunity initiated in the thyroid gland could trigger development of the skin lesions In addition, recent studies demonstrated the expression of thyroid factor-1, thyroglobulin and thyroperoxidase in the human skin.(Shashank R. Joshi, 2011)