

**University of Mumbai**



**Revised Syllabus of Courses  
of  
Master of Commerce (M.Com)  
Programme  
at  
Second Year  
Semester III and IV**

**Under Choice Based Credit, Grading and  
Semester System**

*(To be implemented from Academic Year 2017-2018)*

***Faculty of Commerce***

**Master of Commerce (M.Com) Programme**  
**Under Choice Based Credit, Grading and Semester System**  
**Course Structure**



**M.Com II**

*(To be implemented from Academic Year- 2017-2018)*

No. of Courses	Semester III	Credits	No. of Courses	Semester IV	Credits
1	<i>Elective Courses (EC)</i>		1	<i>Elective Courses (EC)</i>	
1,2 and 3	*Any one group of courses from the following list of the courses (Group – A/B/C/D/E)	18	1,2 and 3	**Any one group of courses from the following list of the courses (Group – A/B/C/D/E)	18
2	✓ <i>Project Work</i>		2	✓ <i>Project Work</i>	
4	Project Work - I	06	4	Project Work - II	06
	<b>Total Credits</b>	24		<b>Total Credits</b>	24

✓ **Note:** Project work is considered as a special course involving application of knowledge in solving/ analyzing/ exploring a real life situation/ difficult problem. Project work would be of 06 credits. A project work may be undertaken in any area of Elective Courses

*(Signature)*  
**PRINCIPAL**  
 Anandibai Raorane Arts, Commerce  
 & Science College, Vainavwadi



**University of Mumbai**  
**Syllabus for M. A. English Program: Part II**  
**Semester III & IV**

**(Choice Based Credit System)**



**Syllabus for M.A. Semester III and IV as per Choice Based Credit System with effect from the Academic Year 2017-18:**

**Course Structure:**

**1.1 Credits:** A course that is taught for 4 hours a week for a period of 15 weeks will carry six credits.

**1.2. Course credits:** To qualify in a given course, a student will have to acquire six credits in the course. Out of these, four credits are central teaching component and two credits are for the self-study component. The self study component will consist of academic tasks outside the classroom that will be assigned by the teacher from time to time. The self study component assigned in this manner will be related to or an extension of but not in lieu of the prescribed syllabus. The self-study component will be given a weightage of 33% in the evaluation of the student. In case of courses with practical component/ field-work components, four credits are for theory course and two credits shall be practical component/field-work component (regulation 5.1 to 5.9).

**1. 3. M. A. Programme:** A student who acquires a minimum of 100 credits over four semesters will be declared eligible for the award of the M.A. degree.

**1.4. Courses:** There shall be five types of courses: (i) Core Course; (ii) Elective Course; (iii) Interdisciplinary/Cross-disciplinary Courses; (iv) Audit Courses; (v) Project-based Courses; (vi) Ability Enhancement Courses

**(i) Core Course:** Core courses are courses that impart instruction in the basic non-specialized aspects of a discipline that constitute the minimum basic competency in that discipline, regardless of any specialization that the learner might choose in the future. Core-Courses shall be offered by the parent department. Core courses shall be for six credits. Minimum 50% courses of the MA programme over four semesters must be core courses.

**(ii) Elective Courses:** Elective courses shall be courses offered by the parent department that impart instructions in specialized/advanced/supportive aspects of the relevant discipline. Each department shall offer a pool of such courses from which a student can choose. Elective Courses shall be for six credits. The syllabus for each elective course will have a preamble clearly stating the course and the learner objectives for the elective, along with the pre-requisites if any and a detailed list of references.

**(iii) Interdisciplinary/Cross Disciplinary Courses (I/C courses):** I/C courses shall be offered by parent department and departments other than parent department. One 'course basket' shall be created for the same. Each MA program has to offer a minimum of two courses and maximum of four courses in the basket. Every I/C course shall be for six credits. A student may opt for an I/C course offered by his/her parent department.

**(iv) Audit Courses:** Students can audit a course from the parent department as well as from other departments in addition to the core, elective and I/C courses that are mandatory, with the prior permission of the head/s of the relevant department/s. Such a student will have to apply in writing at most a week after the relevant course has commenced. For the audit course, a student shall attend lectures of the audited course. The student cannot appear for the semester-end examination for the audited course. However, the student shall appear for the



internal examination/assessment. The audit course appears on the mark-sheet only when the student passes the internal assessment with minimum 50% marks, failing to which, the student cannot claim the audit for that course. The internal marks shall not be displayed on final mark-sheet. The internal marks shall not be used for the credit computation. A student is permitted to audit maximum four courses in the MA program.

(v) **Ability Enhancement Course:** The ability enhancement courses are skills based course. The ability enhancement courses are to be offered at fourth semester.

(vi) **Project based courses:** Project based courses shall consist of a dissertation. Each dissertation course will carry 10 credits. Every learner shall choose one project based course.

## **2: Rules for programmes not having a practical component**

2.1: Four core courses shall be offered in semesters 1 and 2 each.

2.2. Five elective courses shall be offered in the third semester. No other courses will be offered in the third semester.

2.3. The fourth semester shall consist of one ability enhancement course, one interdisciplinary/cross disciplinary courses (I/C courses) and one project based course.

2.4. Each department will offer at least one I/C course during semester 4. The learner can choose any one course from this basket, including the course offered by his/her parent department. The preamble to this course will clearly specify the prerequisites for this course.

2.5. A learner will have to apply to the relevant department in writing no later than two weeks after the commencement of the fourth semester for taking the I/C course offered by that department.

2.6. A learner can relinquish an I/C course chosen by him/her no later than two weeks after the commencement of the fourth semester by applying to the Head of the Department whose I/C course the student wishes to opt for. The application will have to be endorsed by the head of the Department whose I/C course the student has relinquished and the Head of the parent department.

2.7. The Head of the Department offering a specific I/C course will convey the marks of the internal examination obtained by students taking the course to the Head of the parent department before the commencement of the end semester examination of the parent department.



**The Outline:** Each course in the category of Elective Course/Ability Enhancement Course/ Interdisciplinary/Cross-disciplinary Course shall be of 100 marks and out of that 40 marks shall be allocated for internal assessment and the remaining 60 marks shall be allocated for semester end examination. Each will have 6 Credits.

The Project based courses shall be of 100 marks consisting of a dissertation. Each dissertation course will carry 10 Credits. The criteria for evaluation will be as per the university guidelines.

[For further details see the Choice Based Credit System—Regulations of the University of Mumbai]

<b>Elective Courses: Semester III</b>			
Sr. No			
<b>I</b>	<b>Elective I</b>	<b>Course Code</b>	<b>Paper No.</b>
1	Poetry from Chaucer to the Present	PAENG301	Paper I- A
2	English Language Teaching	PAENG301	Paper I- B
<b>II</b>	<b>Elective II</b>		
1	Gendered Perspectives on Literature	PAENG302	Paper II- A
2	Nineteenth Century American Literature	PAENG302	Paper II- B
<b>III</b>	<b>Elective III</b>		
1	New Literatures in English	PAENG303	Paper III -A
2	Twentieth Century American Literature	PAENG303	Paper III -B
<b>IV</b>	<b>Elective IV</b>		
1	Shakespeare	PAENG304	Paper IV-A
2	Modern Indian Fiction in English	PAENG304	Paper IV- B
<b>V</b>	<b>Elective V</b>		
1	Postcolonial Literature	PAENG305	Paper V- A
2	Indian Writing in Translation	PAENG305	Paper V-B
<b>Ability Enhancement Courses: Semester IV</b>			
1	Creative Writing	PAENG306	Paper I-A
2	Translation: Theory and Practice	PAENG306	Paper I-B




3	Research Methodology	PAENG306	Paper I- C
4	English for Academic and Commercial Purpose	PAENG306	Paper I-D
<b>Interdisciplinary/Cross-disciplinary Courses: Semester IV</b>			
1	Film and Literature	PAENG307	Paper II-A
2	Cultural Studies	PAENG307	Paper II-B
3	Media Studies	PAENG307	Paper II-C
4	Political Reading of Literature	PAENG307	Paper II-D
<b>Project Based Courses [Topics/Areas]</b>			
1	Comparative Literature	PAENG308	Paper III-A
2	Re-reading Canonical Texts	PAENG308	Paper III-B
3	Language and Literature	PAENG308	Paper III-C
4	Film Appreciation	PAENG308	Paper III- D
5	Art and Literature	PAENG308	Paper III- E
6	Study of Popular Culture	PAENG308	Paper III- F
7	Subaltern in Literature	PAENG308	Paper III-G
8	Literature and Environment	PAENG308	Paper III-H
9	Gendered Reading of Literature	PAENG308	Paper III-I
10	Literature of Diaspora	PAENG308	Paper III-J
11	Queer and LGBT Studies	PAENG308	Paper III-K
12	Folk Literature	PAENG308	Paper III-L
13	Mythology	PAENG308	Paper III-M
14	Spirituality and Literature	PAENG308	Paper III-N
15	Journalism and Literature	PAENG308	Paper III-O
16	Marginality and Protest in Literature	PAENG308	Paper III-P



**Details of Course and Credit Structure:**

Semester	Nature of Course	No of Courses	Total Credit
I	Core Course	04	4X6=24
II	Core Course	04	4X6=24
III	Elective Course	05	5X6=30
IV	Ability Enhancement Course	01	06
	Interdisciplinary/Cross Disciplinary Course	01	06
	Project Based Course	01	10
			22
<b>Total No. of Credit: 100</b>			

  
**PRINCIPAL**  
 Anandibai Raorane Arts, Commerce  
 & Science College, Vaibhavwadi





AC - 14/06/2018

Item No. 4.71

# UNIVERSITY OF MUMBAI



Program : M.Sc.

( Choice Based Credit System )

**Course : M.Sc. Organic Chemistry**

**Part - I**

**Syllabus for Semester III & IV**

(To be implemented from the Academic year 2018-2019 )



Course Code: PSCHOOC-II 404

**PAPER – IV: RESEARCH METHODOLOGY**

**Unit 1:** [15L]

**Print:** [5L]

Primary, Secondary and Tertiary sources.

**Journals:**

Journal abbreviations, abstracts, current titles, reviews, monographs, dictionaries, text-books, current contents, Introduction to Chemical Abstracts and Beilstein, Subject Index, Substance Index, Author Index, Formula Index, and other Indices with examples.

**Digital:** [5L]

Web sources, E-journals, Journal access, TOC alerts, Hot articles, Citation Index, Impact factor, H-index, E-consortium, UGC infonet, E-books, Internet discussion groups and communities, Blogs, preprint servers, Search engines, Scirus, Google Scholar, ChemIndustry, Wiki-databases, ChemSpider, Science Direct, SciFinder, Scopus.

**Information Technology and Library Resources:** [5L]

The Internet and World wide web, Internet resources for Chemistry, finding and citing published information.

**Unit II: DATA ANALYSIS** [15L]

**The Investigative Approach:**

Making and recording Measurements, SI units and their use, Scientific methods and design of experiments.

**Analysis and Presentation of Data:**

Descriptive statistics, choosing and using statistical tests, Chemometrics, Analysis of Variance (ANOVA), Correlation and regression, curve fitting, fitting of linear equations, simple linear cases, weighted linear case, analysis of residuals, general polynomial fitting, linearizing transformations, exponential function fit, r and its abuse, basic aspects of multiple linear regression analysis.

**Unit III: METHODS OF SCIENTIFIC RESEARCH AND WRITING** [15L]

*Statade*

PRINCIPAL  
Anandihal Raorane Arts, Commerce  
& Science College, Vadgaon-Vadgaon



## SCIENTIFIC PAPERS

Reporting practical and project work, Writing literature surveys and reviews, organizing a poster display, giving an oral presentation.

### **Writing Scientific Papers:**

Justification for scientific contributions, bibliography, description of methods, conclusions, the need for illustration, style, publications of scientific work, writing ethics, avoiding plagiarism.

## Unit IV: CHEMICAL SAFETY & ETHICAL HANDLING OF CHEMICALS

[15L]

Safe working procedure and protective environment, protective apparel, emergency procedure, first aid, laboratory ventilation, safe storage and use of hazardous chemicals, procedure for working with substances that pose hazards, flammable or explosive hazards, procedures for working with gases at pressures above or below atmospheric pressure, safe storage and disposal of waste chemicals, recovery, recycling and reuse of laboratory chemicals, procedure for laboratory disposal of explosives, identification, verification and segregation of laboratory waste, disposal of chemicals in the sanitary sewer system, incineration and transportation of hazardous chemicals.

### REFERENCES:

1. Dean, J. R., Jones, A. M., Holmes, D., Reed, R., Weyers, J., & Jones, A., (2011), *Practical skills in Chemistry*, 2<sup>nd</sup> Ed., Prentice Hall, Harlow.
2. Hibbert, D. B. & Gooding, J. J. (2006) *Data Analysis for Chemistry* Oxford University Press.
3. Topping, J., (1984) *Errors of Observation and their Treatment* 4<sup>th</sup> Ed., Chapman Hill, London.
4. Harris, D. C. (2007) *Quantative Chemical Analysis* 6<sup>th</sup> Ed., Freeman Chapters 3-5
5. Levie, R. De. (2001) *How to use Excel in Analytical Chemistry and in general scientific data analysis* Cambridge University Press.
6. Chemical Safety matters – IUPAC-IPCS, (1992) Cambridge University Press.
7. OSU Safety manual 1.01

## **Semester IV: Practicals** **Course code: PSCHO4P1**

### **Two steps preparations**

1. Acetophenone → Acetophenone phenyl hydrazine → 2-phenyl



- indole.
- 2-naphthol → 1-phenyl azo-2-naphthol → 1-amino-2-naphthol.
  - Cyclohexanone → cyclohexanone oxime → Caprolactum.
  - Hydroquinone → hydroquinone diacetate → 2,5-dihydroxyacetophenone.
  - 4-nitrotoluene → 4-nitrobenzoic acid → 4-aminobenzoic acid.
  - o*-nitroaniline → *o*-phenylene diamine → Benzimidazole.
  - Benzophenone → benzophenone oxime → benzanilide.
  - o*-chlorobenzoic acid → *N*-phenyl anthranilic acid → acridone.
  - Benzoin → benzil → benzilic acid.
  - Phthalic acid → phthalimide → anthranilic acid.
  - Resorcinol → 4-methyl-7-hydroxy coumarin → 4-methyl-7-acetoxy coumarin.
  - Anthracene → anthraquinone → anthrone.

**(Minimum 8 experiments)**

**Note:**

- Students are expected to know (i) the planning of synthesis, effect of reaction parameters including stoichiometry, and **safety aspects including MSDS** (ii) the possible mechanism, expected spectral data (IR and NMR) of the starting material and final product.
- Students are expected to purify the product by recrystallization, measure its mass or volume, check the purity by TLC, determine physical constant and calculate percentage yield.

**Course code: PSCHO4P2**

**Session-I: Combined spectral identification: Interpretation of spectral data of organic compounds (UV, IR, PMR, CMR and Mass spectra).**

A student will be given UV, IR, PMR, CMR, and Mass spectra of a compound from which preliminary information should be reported within first half an hour of the examination without referring to any book/reference material. The complete structure of the compound may then be elucidated by referring to any standard text-book/reference material etc  
**(Minimum 8 spectral analysis).**

**Session-II: Project evaluation**

**References for Practicals**

- Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis- V.  
K. Ahluwalia and Renu Aggarwal, Universities Press India Ltd., 2000
- Advanced Practical Organic Chemistry- N. K. Vishnoi, Third Addition, Vikas Publishing House PVT Ltd
- Systematic Laboratory Experiments in Organic Synthesis- A. Sethi, New Age International Publications
- Systematic Identification of Organic compounds, 6th edition, R. L. Shriner, R. C. Fuson and D.Y. Curtin Wiley, New York.
- Vogel's Textbook of Quantitative Analysis, revised, J. Bassett, R. C. Denney, G. H. Jeffery and J. Mendham, ELBS
- Experiments and Techniques in Organic Chemistry, D. Pasto, C. Johnson and M. Miller, Prentice Hall



7. Macro-scale and Micro-scale Organic Experiments, K. L. Williamson, D. C. Heath.
8. Systematic Qualitative Organic Analysis, H. Middleton, Adward Arnold.
9. Handbook of Organic Analysis- Qualitative and Quantitative, H. Clark, Adward Arnold.
10. Vogel's Textbook of Practical Organic Chemistry, Fifth edition, 2008, B.S. Furniss, A. J. Hannaford, P. W. G. Smith, A. R. Tatchell, Pearson Education.
11. Laboratory Manual of Organic Chemistry, Fifth edition, R K Bansal, New Age Publishers.
12. Organic structures from spectra, L. D. Field, S. Sternhell, John R. Kalman, Wiley, 4<sup>th</sup> ed., 2011.

1. The candidate is expected to submit a journal and project certified by the Head of the Department /institution at the time of the practical examination.
2. A candidate will not be allowed to appear for the practical examination unless he/she produces a certified journal or a certificate from the Head of the institution/department stating that the journal is lost and the candidate has performed the required number of experiments satisfactorily. The list of the experiments performed by the candidate should be attached with such certificate.
3. Use of non-programmable calculator is allowed both at the theory and the practical examination.

*Shakode*

**PRINCIPAL**  
Anandibai Raorane Arts, Commerce  
& Science College, Vaibhavwadi

# "STERILIZATION OF WATER USING BLEACHING POWDER"

A project submitted to

Department of Chemistry

Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi,

Dist. Sindhudurg, Maharashtra-416810

(Permanently Affiliated to University of Mumbai)

NAAC Re-Accredited with 'A' grade (CGPA: 3.08), ISO 9001:2005 Certified

Best College Award by University of Mumbai (Rural)



For the partial fulfillment of

MASTER OF SCIENCE  
IN  
CHEMISTRY

Under the Faculty of Science

By

Mr. Tanmay Hemant Sapale

Under the Guidance of

Dr. V. B. Gopula

M.Sc., Ph.D., NET

Assistant Professor, Department of Chemistry

Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi

District - Sindhudurg, Maharashtra-416810

May - 2023


## CERTIFICATE


This is certify that, **Mr. Tanmay Hemant Sapale**, has performed a work on the project entitled “**Sterilization Of Water Using Bleaching Powder**” for the partial fulfillment of the requirement of the degree of Master of Science in Subject Chemistry for the academic year 2022-23 satisfactory. The work is original and has not been submitted for the award of any Diploma or Degree of this or any other University.

It is also stated that the contents of this project represent independent work of **Mr. Tanmay Hemant Sapale** and the all experiments were done by the candidate himself under project guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry, Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, District – Sindhudurg, Maharashtra-416810.

Place – Vaibhavwadi

Date –

  
**Dr. V. B. Gopula**  
Project Guide

  
**Dr. D. M. Sirsat**  
Head, Dept. of Chemistry  
Head of Department  
Anandibai Raorane Arts, Comm. &  
Science College, Vaibhavwadi

  
**Dr. C.S. Kakade**  
Principal  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.



## DECLARATION

I hereby declare that the project entitled "**Sterilization Of Water Using Bleaching Powder**" is completed and written by me. The work is original and it has not previously formed the basis for the award of any Degree or Diploma or any other similar title of this or any other University or examining body. Further, I have not violated any of the provisions under the act of Copyright/Piracy/Cyber/IPR etc. amended from time to time.

Place: Vaibhavwadi

Date:



*Mr. Tanmay Hemant Sapale*

Project Student



## ACKNOWLEDGEMENT

I express my deep sense of gratitude, indebtedness and sincere thanks to my guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry for their invaluable service rendered in bringing out this project work.

With profound respect I acknowledge to all the staff members for their valuable guidance in presentation of this project work. My sincere thanks are also to our Principal, **Dr. C. S. Kakade** who had given me their kind cooperation during the presentation of this project work. I would like to express my sincere thanks to non-teaching staff for their cooperation during laboratory work.

Last but not least, I owe my sincere gratitude to my beloved family members for their encouragement and sharing cheerfully the difficulties encountered by me during my educational life.



*Mr. Tanmay Hemant Sapale*

M.Sc.-II (Sem-IV)

Department of Chemistry

A.R.A.C.S. College, Vaibhavwadi.

**“FRUIT JUICE - A SIMPLE ENVIRONMENTALLY BENIGN AND  
ENERGY EFFICIENT REACTION MEDIA FOR THE SYNTHESIS OF  
N-ARYLPHTHALIMIDES ”**

**A project submitted to**

**Department of Chemistry**

**AnandibaiRaorane Arts, Commerce and Science College, Vaibhavwadi, Dist.  
Sindhudurg, Maharashtra-416810**

**(Permanently Affiliated to University of Mumbai)**

**NAAC Re-Accredited with 'A' grade (CGPA: 3.08), ISO 9001:2005 Certified**



**For the partial fulfillment of**

**MASTER OF SCIENCE  
IN  
CHEMISTRY**

**Under the Faculty of Science**

**By**

**Mr. Prathamesh Pandurang Patil**

**Under the Guidance of**

**Dr. V. B. Gopula**

**M.Sc., PhD., NET**

**Department of Chemistry**

**AnandibaiRaorane Arts, Commerce and Science College, Vaibhavwadi  
District - Sindhudurg, Maharashtra-416810**

**May 2023**

## CERTIFICATE

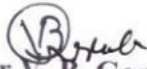
This is certify that **Mr. PrathameshPandurangPatil**, has performed a work on the project entitled **“FRUIT JUICE - A SIMPLE ENVIRONMENTALLY BENIGN AND ENERGY EFFICIENT REACTION MEDIA FOR THE SYNTHESIS OF N-ARYLPHTHALIMIDES ”** for the partial fulfillment of the requirement of the degree of Master of Science in Subject Chemistry for the academic year 2022-23 satisfactory. The work is original and has not been submitted for the award of any Diploma or Degree of this or any other University.


It is also stated that the contents of this project represent independent work of **Mr. PrathameshPandurangPatil** and the all experiments were done by the candidate himself under project guide **Dr. V. B. Gopula**, Department of Chemistry, Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, District – Sindhudurg, Maharashtra-416810.

Place – Vaibhavwadi

Date –



  
Dr. V. B. Gopula    Dr. D. M. Sirsat

  
Dr. C. S. Kakade

Project Guide

Principal  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.

  
26/06/2023

## DECLARATION

I hereby declare that the project entitled **“FRUIT JUICE - A SIMPLE ENVIRONMENTALLY BENIGN AND ENERGY EFFICIENT REACTION MEDIA FOR THE SYNTHESIS OF N-ARYLPHTHALIMIDES ”**

is completed and written by me. The work is original and it has not previously formed the basis for the award of any Degree or Diploma or any other similar title of this or any other University or examining body. Further, I have not violated any of the provisions under the act of Copyright/Piracy/Cyber/IPR etc. amended from time to time.

Place: Vaibhavwadi

**Mr. PrathameshPandurangPatil**

Date: 22/06/2023

Project Student

## ACKNOWLEDGEMENT

I express my deep sense of gratitude, indebtedness and sincere thanks to my guide **Mr. V. B. Gopula**, Department of Chemistry for their invaluable service rendered in bringing out this project work.

With profound respect I acknowledge to all the staff members for their valuable guidance in presentation of this project work. My sincere thanks are also to our Principal, **Dr. C.S. Kakade** who had given me their kind cooperation during the presentation of this project work. I would like to express my sincere thanks to non-teaching staff for their cooperation during laboratory work.

Last but not least, I owe my sincere gratitude to my beloved family members for their encouragement and sharing cheerfully the difficulties encountered by me during my educational life.



**Mr. Prathamesh Pandurang Patil**

M.Sc.-II (Sem-IV)

Department of Chemistry

A.R.A.C.S. College, Vaibhavwadi.

# "Synthesis of diamino-4-phenyl-3,5-dicyano-2-pyridone derivatives using basic ionic liquids"

A project submitted to

Department of Chemistry

Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi,

Dist. Sindhudurg, Maharashtra-416810

(Permanently Affiliated to University of Mumbai)

NAAC Re-Accredited with 'A' grade (CGPA: 3.08), ISO 9001:2005 Certified

Best College Award by University of Mumbai (Rural)



For the partial fulfillment of

**MASTER OF SCIENCE  
IN  
CHEMISTRY**

Under the Faculty of Science

By

**Mr. Yuvraj Balaso Powar**

Under the Guidance of

**Dr. V. B. Gopula**

M.Sc., Ph.D., NET

Assistant Professor, Department of Chemistry

Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi

District - Sindhudurg, Maharashtra-416810

**May - 2023**

## CERTIFICATE

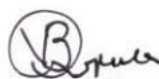
This is certify that, **Mr. Yuvraj Balaso Powar**, has performed a work on the project entitled "Synthesis of diamino-4-phenyl-3,5-dicyano-2-pyridone derivatives using basic ionic liquids" for the partial fulfillment of the requirement of the degree of Master of Science in Subject Chemistry for the academic year 2022-23 satisfactory. The work is original and has not been submitted for the award of any Diploma or Degree of this or any other University.


It is also stated that the contents of this project represent independent work of **Mr. Yuvraj Balaso Powar** and the all experiments were done by the candidate himself under project guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry, Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, District – Sindhusurg, Maharashtra-416810.

Place – Vaibhavwadi

Date – 22-06-2023.



  
Dr. V. B. Gopula  
Project Guide

  
Dr. D. M. Sirsat  
Head, Dept. of Chemistry  
Anandibai Raorane Arts, Comm. &  
Science College, Vaibhavwadi

  
Dr. C.S. Kakade  
Principal  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.

## DECLARATION

I hereby declare that the project entitled "Synthesis of diamino-4-phenyl-3,5-dicyano-2-pyridone derivatives using basic ionic liquids" is completed and written by me. The work is original and it has not previously formed the basis for the award of any Degree or Diploma or any other similar title of this or any other University or examining body. Further, I have not violated any of the provisions under the act of Copyright/Piracy/Cyber/IPR etc. amended from time to time.

Place: Vaibhavwadi

Date:



**Mr. Yuvraj Balaso Powar**

Project Student



## ACKNOWLEDGEMENT

I express my deep sense of gratitude, indebtedness and sincere thanks to my guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry for their invaluable service rendered in bringing out this project work.

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Last but not least, I owe my sincere gratitude to my beloved family members for their encouragement and sharing cheerfully the difficulties encountered by me during my educational life.



**Mr. Yuvraj Balaso Powar**

M.Sc.-II (Sem-IV)

Department of Chemistry

A.R.A.C.S. College, Vaibhavwadi.

# Analysis of Vegetable juice

A project submitted to

Department of Chemistry

AnandibaiRaorane Arts, Commerce and Science College, Vaibhavwadi, Dist.

Sindhudurg, Maharashtra-416810

(Permanently Affiliated to University of Mumbai)

NAAC Re-Accredited with 'A' grade (CGPA: 3.08), ISO 9001:2005 Certified



For the partial fulfillment of

**MASTER OF SCIENCE  
IN  
CHEMISTRY**

Under the Faculty of Science

By

**Mr. Pruthviraj Pratap Patil**

Under the Guidance of

**Dr. V. B. Gopula**

M.Sc., PhD., NET

Department of Chemistry

AnandibaiRaorane Arts, Commerce and Science College, Vaibhavwadi

District - Sindhudurg, Maharashtra-416810

**May 2023**

## CERTIFICATE

This is certify that **Mr. Pruthviraj Pratap Patil** has performed a work on the project entitled "**Analysis of Vegetable juice**" for the partial fulfillment of the requirement of the degree of Master of Science in Subject Chemistry for the academic year 2022-23 satisfactory. The work is original and has not been submitted for the award of any Diploma or Degree of this or any other University.

It is also stated that the contents of this project represent independent work of **Mr. Pruthviraj Pratap Patil** and the all experiments were done by the candidate himself under project guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry, Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, District – Sindhudurg, Maharashtra-416810.

Place – Vaibhavwadi

Date – 22/6/23



A handwritten signature in blue ink.

Dr. V. B. Gopula

Project Guide

A handwritten signature in blue ink.

Dr. D. M. Sirsat  
Head, Dept. of Chemistry  
Anandibai Raorane Arts, Comm. &  
Science College, Vaibhavwadi

A handwritten signature in blue ink.

Dr. C. S. Kakade  
Principal  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.

A large handwritten signature in red ink, dated 25/06/2023.

## DECLARATION

I hereby declare that the project entitled **“Analysis of Vegetable juice”** is completed and written by me. The work is original and it has not previously formed the basis for the award of any Degree or Diploma or any other similar title of this or any other University or examining body. Further, I have not violated any of the provisions under the act of Copyright/Piracy/Cyber/IPR etc. amended from time to time.

Place: Vaibhavwadi

**Mr. Pruthviraj Pratap Patil**



Date:

Project Student

## ACKNOWLEDGEMENT

I express my deep sense of gratitude, indebtedness and sincere thanks to my guide **Dr.V. B. Gopula**, Assistant Professor, Department of Chemistry for their invaluable service rendered in bringing out this project work.

With profound respect I acknowledge to all the staff members for their valuable guidance in presentation of this project work. My sincere thanks are also to our Principal, **Dr. C.S. Kakade** who had given me their kind cooperation during the presentation of this project work. I would like to express my sincere thanks to non-teaching staff for their cooperation during laboratory work.

Last but not least, I owe my sincere gratitude to my beloved family members for their encouragement and sharing cheerfully the difficulties encountered by me during my educational life.

**Mr. Pruthviraj Pratap Patil**



M.Sc.-II (Sem-IV)

Department of Chemistry

A.R.A.C.S. College, Vaibhavwadi.

# **“Bismuth Nitrite: An Efficient Catalyst for the Synthesis of secondary amines from primary amines”**

**A project submitted to**

**Department of Chemistry**

**Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi,**

**Dist. Sindhudurg, Maharashtra-416810**

**(Permanently Affiliated to University of Mumbai)**

**NAAC Re-Accredited with ‘A’ grade (CGPA: 3.08), ISO 9001:2005 Certified**

**Best College Award by University of Mumbai (Rural)**



**For the partial fulfillment of**

**MASTER OF SCIENCE  
IN  
CHEMISTRY**

**Under the Faculty of Science**

**By**

***Mr. Sawant Mahesh Sandeep***

**Under the Guidance of**

**Dr. V. B. Gopula**

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

**Assistant Professor, Department of Chemistry**

**Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi**

**District - Sindhudurg, Maharashtra-416810**

**May - 2023**

## CERTIFICATE

This is certify that, *Mr. Sawant Mahesh Sandeep*, has performed a work on the project entitled “**Bismuth Nitrite: An Efficient Catalyst for the Synthesis of secondary amines from primary amines**” for the partial fulfillment of the requirement of the degree of Master of Science in Subject Chemistry for the academic year 2022-23 satisfactory. The work is original and has not been submitted for the award of any Diploma or Degree of this or any other University.

It is also stated that the contents of this project represent independent work of *Mr. Sawant Mahesh Sandeep* and the all experiments were done by the candidate himself under project guide *Dr. V. B. Gopula*, Assistant Professor, Department of Chemistry, Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, District – Sindhudurg, Maharashtra-416810.

Place – Vaibhavwadi

Date – 22-06-2023.



A handwritten signature in blue ink, appearing to be "V. B. Gopula".

Dr. V. B. Gopula

Project Guide

A handwritten signature in blue ink, appearing to be "D. M. Sirsat".

Dr. D. M. Sirsat

Head of Department  
Head, Dept. of Chemistry  
Anandibai Raorane Arts, Comm. &  
Science College, Vaibhavwadi

A handwritten signature in blue ink, appearing to be "C.S. Kakade".

Dr. C.S. Kakade

Principal  
Principal  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.

## DECLARATION

I hereby declare that the project entitled "Bismuth Nitrite: An Efficient Catalyst for the Synthesis of secondary amines from primary amines" is completed and written by me. The work is original and it has not previously formed the basis for the award of any Degree or Diploma or any other similar title of this or any other University or examining body. Further, I have not violated any of the provisions under the act of Copyright/Piracy/Cyber/IPR etc. amended from time to time.

Place: Vaibhavwadi

Date:



*Mr. Sawant Mahesh Sandeep*

Project Student



## ACKNOWLEDGEMENT

I express my deep sense of gratitude, indebtedness and sincere thanks to my guide **Dr. V. B. Gopula**, Assistant Professor, Department of Chemistry for their invaluable service rendered in bringing out this project work.

With profound respect I acknowledge to all the staff members for their valuable guidance in presentation of this project work. My sincere thanks are also to our Principal, **Dr. C. S. Kakade** who had given me their kind cooperation during the presentation of this project work. I would like to express my sincere thanks to non-teaching staff for their cooperation during laboratory work.

Last but not least, I owe my sincere gratitude to my beloved family members for their encouragement and sharing cheerfully the difficulties encountered by me during my educational life.



**Mr. Sawant Mahesh Sandeep**

M.Sc.-II (Sem-IV)

Department of Chemistry

A.R.A.C.S. College, Vaibhavwadi.

A

PROJECT REPORT ON

**“The Impact of Commerce in Emerging Markets”**

*A Project Submitted to University of Mumbai for partial  
Completion of The degree of*

**MASTER IN COMMERCE  
UNDER THE FACULTY OF COMMERCE**

*Submitted by*

**MR.PRATHAMESH PRAKASH VITEKAR**

**M.COM PART II SEMESTER III**

**Exam Seat No - 1365787**

**Under the Guidance of**

**ASST.PROF. R.A.BHOSALE**

**DEPARTMENT OF COMMERCE AND ACCOUNTANCY**

**ANANDIBAI RAORANE ARTS, COMMERCE AND SCIENCE**

**COLLEGE VAIBHAVWADI.**

**(Affiliated to the University of Mumbai)**

**DIST -SINDHUDURG**

**2022-2023**

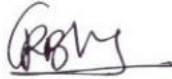
**MAHARANA PRATAP SINGH SHIKSHAN SANSTHA**  
**ANANDIBAI RAORANE ARTS, COMMERCE AND SCIENCE COLLEGE**  
**VAIBHAVWADI**

## CERTIFICATE

This is to certify that **Mr. PRATHAMESH PRAKSH VITEKAR** has worked and duly completed her project work for the degree of Master of Commerce under the Faculty of commerce in the subject "**The Impact of Commerce in Emerging Markets**" under my supervision.

I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any Degree or Diploma any University.

It is his own work and facts reported by his personal findings and investigations.



PROJECT GUIDE  
 ( Prof. R. A. Bhosale )



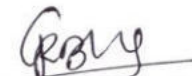
PRINCIPAL

**PRINCIPAL**  
 Anandibai Raorane Arts, Commerce  
 & Science College, Vaibhavwadi



(Dr. M. I. Kundshery)  
 EXTERNAL EXAMINER



  
 (Bhosale R.A.)  
 Internal Examiner.

## DECLARATION

I, the undersigned **Mr. Prathamesh Prakash Vitekar**, hereby declare that the project report on "**The Impact of Commerce in Emerging Markets**", forms own contribution to research work carried out the under the guidance of **Prof. R.A.Bhosale** is a result of my own research work and has not been previously submitted to any other University for any other Degree/ Diploma to this or any other University.

Wherever reference has been made to previous work of other, it has been clearly indicated as such and included in the bibliography

I hereby further declare that all information of this document has been obtained and presented in accordance with academic rules and ethical conduct.

Mr.Prathamesh Prakash Vitekar

Certified by

Prof. R.A.Bhosale

## Acknowledgment

To List Who All have helped me is difficult because they are so numerous and the depth is so enormous.

I would like to acknowledge the following as being idealistic channels and fresh dimensions in the completion of this project.

I take this opportunity to thank the **University Of Mumbai** for giving me chance to do this project.

I take this opportunity to thank our Principal , **Dr.C.S.Kakade Sir** for her moral support and guidance.

I would also like to express my sincere gratitude towards my project guide **Prof.R.A.Bhosale Sir** whose guidance and care made the project Successful.

I would like to thank my College Library for having provided various reference books and magazines related to my project.

Lastly, I would like to thank each and every person who directly or indirectly helped me in the completion of the project especially **My Parents and Peers** who supported me throughout my project.

Place: Vaibhavwadi

Date : 28/02/2023

( Name of the Student)

*Vitekar*

Mr.Prathamesh Prakash Vitekar

**A**

**PROJECT REPORTED ON**

**“THE IMPACT OF E-COMMERCE IN EMERGING  
MARKETS”**

**A PROJECT SUBMITTED TO UNIVERSITY OF MUMBAI  
FOR PARTIAL COMPLETION OF THE OF DEGREE OF**

**MASTER IN COMMERCE  
UNDER THE FACULTY OF COMMERCE**

**SUBMITTED BY**

**MS.NIKITA NANDAKUMAR RAORANE**

**M.COM II SEM III**

**EXAM SEAT NO- 1365776**

**UNDER THE GUIDANCE OF**

**Prof. R.A. Bhosale**

**DEPARTMENT OF COMMERCE AND ACCOUNTANCY**

**ANADIBAI RAORANE**

**ARTS,COMMERCE & SCIENCE COLLEGE, VAIBHAVWADI**

**(Affiliated To The University of Mumbai)**

**DIST- SINDHUDURG**

**2022-23**

# DECLARATION

I the undersigned Ms. Nikita Nandakumar Raorane here by declare that ,the work emboided in this research project work titled the a study on perception of fruit processing industries in sindhudurg district forms my own contribution to the research work carried out under the guidance of prof. R.A. Bhosale in a result of my own research work and has not been previously submitted to any other university or any other degree / diploma to this any other university.

wherever your reference has been made to previous work of others it has been clearly indicated as such in included in the bibliography.

i hereby further declare that all information of this document has been obtained and presented in accordance with academic rules and ethical conduct.

  
Signature

Ms. Nikita Nandakumar Raorane

  
Certified by

Prof:- R.A.Bhosale

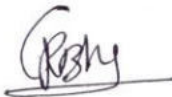
MAHARANA PRATAP SHIKSHAN SANSTHAN  
ANADIBAI RAORANE ARTS, COMMERCE, & SCIENCE  
COLLEGE ,VAIBHAVWADI

**CERTIFICATE**

This is to certify that Ms. Nikita Nandakumar Raorane has worked and duly completed her project work for the degree of master in commerce under faculty of commerce in the subject of "A STUDY ON IMPACT OF E-COMMERCE ON EMERGING MARKET" under my supervision Prof.R.A. Bhosale

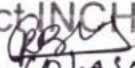
I further certify that the entire work has been done by the learner my guidance and that no part of it has been submitted previously for any degree or diploma of any university


It is her own work and facts reported by his personal finifinf and investigations



(PROF. R.A. Bhosale)



Subject INCHARGE  
  
(Bhosale R.A.)  
INTERNAL EXAMINER

  
(Dr. M.I. Kumbhar)  
(EXTERNAL EXAMINER)



PRINCIPAL  
Principal  
Anadibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.



# ACKNOWLEDEMENT

I would like to take the opportunity to express my sincere gratitude to all people who have helped me with sound advice and able guidance.

Above all, I express my eternal gratitude to the Lord Almighty under whose divine guidance; I have been able to complete this work successfully.

I am thankful to Prof.R.A bhosale, Co-ordinator of B.Com (Finance), for providing proper help and encouragement in the preparation of this report..

I would like to express my gratitude to all the faculties of the Department for their interest and cooperation in this regard.

I extend my hearty gratitude to the librarian and other library staffs of my college for their wholehearted cooperation.

I express my sincere thanks to my friends and family for their support in completing this report successfully.

Place - Vaibhavwadi

Date - 28/02/2023

*N Raorane*

Ms. Nikita Nandakumar Raorane

A

**PROJECT REPORT ON**

**“A Study on NPA Management of any SDCC Banks”**

*A Project Submitted to University of Mumbai*

*For partial Completion of the of*

**MASTER IN COMMERCE**

*Under to Faculty of Commerce and Management*

*Submitted by*

**MR.PRATHAMESH PRAKASH VITEKAR**

**Semester - IV**

**Exam Seat No. - 2151869**

**Under the Guidance of**

**ASST.PROF. R.A.BHOSALE**

**DEPARTMENT OF COMMERCE**

**June: 2023**

**ANANDIBAI RAORANE ARTS,COMMERCE AND SCIENCE**

**COLLEGE VAIBHAVWADI.**

**(Affiliated to the University of Mumbai)**

# Certificate

This is to certify that **Mr. PRATHAMESH PRAKSH VITEKAR** has worked and duly completed his project work for the degree of Master of Commerce under the Faculty of commerce and Management in the subject of Project work. An Area of Study is "**A Study on NPA Management of any SDCC Banks**" under my supervision.

I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any Degree or Diploma any University.

It is his own work and facts, findings and recommendation reported by him.

Date of Submission : 18/06/2023



Asst. Prof. R.A.Bhosale



Principal

Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi

Anandibai Raorane Arts,  
Commerce & Science College,  
Vaibhavwadi



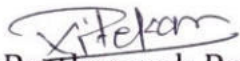
Signature of External  
Examiner  
**Head Dept. of Commerce**  
ARACS College, Vaibhavwadi.

## DECLARATION OF LEARNER


I, the undersigned **Mr. Prathamesh Prakash Vitekar**, hereby declare that the project report on "**A Study on NPA management of any SDCC Banks**", forms own contribution to research work carried out the under the guidance of **Prof. R.A.Bhosale** is a result of my own research work and has not been previously submitted to any other University for any other Degree/ Diploma to this or any other University.

Wherever reference has been made to previous work of other, it has been clearly indicated as such and included in the bibliography

I hereby further declare that all information of this document has been obtained and presented in accordance with academic rules and ethical conduct.

  
Mr.Prathamesh Prakash Vitekar

Certified by

  
Prof. R.A.Bhosale

## Acknowledgment


I would like to acknowledge sincere gratitude and regards towards helping hands and personalities for incredible contribution in the completion of this Project work. I take this opportunity to thank the **University of Mumbai** for giving me chance to do this project. I would like to thank my Hon. Principal **Dr. C. S. Kakade** providing the necessary facilities required for completion of this project.

I take this opportunity to thank our coordinator of the program **Dr. M. I. Kumbhar** for his moral support and guidance. I would also like to express my sincere gratitude towards my project guide **Prof. R. Bhosale** whose guidance and care made the project successful. I would like thank to all my College teaching and non-teaching staff and Library for cooperation in completion of my Project.

Lastly, I would like to thank each and every person who directly or indirectly helped me in the completion of the project especially my Parents and Peers who supported me throughout my project.

Place: Vaibhavwadi

Date: 18/06/2023

  
Mr. Prathamesh Prakash Vitekar

**A**

**PROJECT REPORT ON**

**“A STUDY ON GROWTH AND PERFORMANCE OF SINDHUDURG  
DISTRICT CENTRAL CO-OPERATIVE BANK”**

**A PROJECT SUBMITTED TO UNIVERSITY OF MUMBAI FOR  
PARTIAL COMPLETION OF THE DEGREE OF  
MASTER IN COMMERCE**

**UNDER THE FACULTY OF COMMERCE AND MANAGEMENT**

**SUBMITTED BY**

**MR. GAURINANDAN AVINASH CHACHURDE**

**M.COM PART II SEMESTER IV**

**Exam. Seat No: 2151841**

**UNDER THE GUIDANCE OF**

**ASST. PROF. R. A. BHOSALE**

**DEPARTMENT OF COMMERCE AND ACCOUNTANCY**

**JUNE 2023**

**ANANDIBAI RAORANE**

**ARTS, COMMERCE & SCIENCE COLLEGE, VAIBHAVWADI**

**(Affiliated to the University of Mumbai)**

**DIST. – SINDHUDURG**

MAHARANA PRATAP SHIKSHAN SANSTHAN  
ANANDIBAI RAORANE ARTS, COMMERCE & SCIENCE  
COLLEGE, VAIBHAVWADI.

**CERTIFICATE**

This is to certify that Mr. **Gaurinandan Avinash Chachurde** has Worked and duly completed his project work for the degree of Master in Commerce under the Faculty of Commerce and Management in the subject of Project Work. An area of study is – **“A STUDY ON GROWTH AND PERFORMANCE OF SINDHUDURG DISTRICT CENTRAL CO-OPERATIVE BANK(SDCCB)”**

under my supervision. I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any degree or diploma of any University.

It is her / his own work and facts, findings and recommendations reported by her / him.

15/06/2023

**Date of Submission:**



Prof. R. A. Bhosale

(Subject Incharge)






**Principal**  
**PRINCIPAL**  
Anandibai Raorane Arts, Commerce & Science  
College, Vaibhavwadi.



INTERNAL EXAMINER

  
EXTERNAL EXAMINER  
**Head Dept. of Commerce**  
ARACS College, Vaibhavwadi.

## DECLARATION

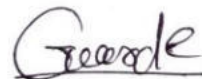
I the undersigned Mr **Gaurinandan Avinash Chachurde** here by. declare that the work embodied in this Project work titled “**A STUDY ON GROWTH AND PERFORMANCE OF SINDHUDURG DISTRICT CENTRAL CO-OPERATIVE BANK**”

forms my own contribution to the research work carried out under the guidance of Prof. R. A. Bhosale. It is my own Research Work and has not been previously submitted to any other university for any other diploma or degree.

Wherever reference has been taken from previous works of others, it has been clearly indicated as such and included in the bibliography.

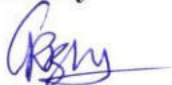
I, here by further declare that all information of this document has been obtained and presented in accordance with academic rules and ethical conduct.

**Sign**



(Mr. Gaurinandan Avinash Chachurde)

**Certified by**



**Prof. R. A. Bhosale**



## ACKNOWLEDGEMENT

To list who all have helped me is difficult because they are so numerous and the depth is so enormous. I would like to acknowledge the following as being idealistic Channels and fresh dimension in the completion of this Project I take this opportunity to thank the **University of Mumbai** for giving me chance to do this project.

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I take this opportunity to thank our coordinator of the program **Dr. M. I. Kumbhar** for his moral support and guidance. I would also like to express my sincere gratitude towards

My project **guide PROF. R. A. Bhosale** whose guidance and care made the project successful.

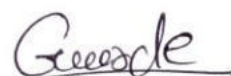
I would like thank to my **College Library**, for having provided various reference books and magazines related to my Project.

Lastly, I would like to thank each and every person who directly or indirectly helped me in the completion of the project especially **my Parents and Peers** who supported me throughout my project.

Date : 15/06/2023

Place: Vaibhavwadi

Sign



(Mr. Gaurinandan Avinash Chachurde )