



Nehru Yuva Krida & Sanskrutik Mandal, Chikhli's

**Late. Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College**

Lavala Road, Sakharkherda. Tq. Sindkhed Raja, Dist. Buldana (M.S.) - 443202

Prof. N. S. Gawande  
Secretary

Dr. N. N. Gawande  
Principal

College Code No. 336

Contact No. 9822364082

Fax : 07264-266211

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Ref. No.

Date :

**Criteria I: Curricular Aspects**

**Key Indicator: 1.3  
Curriculum Enrichment**

**1.3.3 Percentage of students undertaking project work/field work/ internship  
(Data for the latest completed academic year)**

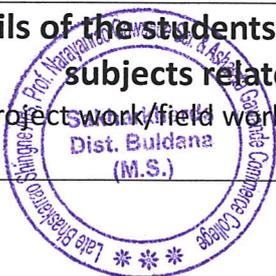
Sr. No	Metric No.	Document Details
01	<b>1.3.3.</b>	Summary of latter showing percentage of students undertaking project work/field work/internship
02		List of students undergoing project work/field work/internship
03		Data Template
04		Sample Project reports
05		Webpage link of corresponding data



**1.3.3 Average percentage of courses that include experiential learning through project work/field work/internship.**

<b>Years</b>	<b>2022-23</b>				
<b>Number of students enrolled in project work/field work/internship</b>	456				
<b>Total Number of students across all programs</b>	1331				
<b>Percentage of students enrolled in project work/field work/internship</b>	34.25				
<b>Average percentage of students enrolled in project work/field work/internship as against the total number of students during the last five years</b>					

<b>File Description</b>	<b>Document</b>
<b>Details of the students enrolled in subjects related</b> In projects work/field work/internship	



**PRINCIPAL**  
 Late Bhaskarrao Shingene Arts,  
 Prof. Narayanrao Gawande Science &  
 Ashalata Gawande Commerce College,  
 Sakarkherda, Tq. 8 Raja Dist. Buldana

**Late. Bhaskarrao Shingne Arts Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College**  
**Sakharherda Dist. Buldhana**

**M.SC (BOTANY)-II SEM-IV**

**LAB-VIII**

**Project List with Topic and Appointed Mentor**

S.N	Name of students	Project Topic/Title	Mentor
1	Aditya Laxmikant Wayal	A study on utilization of bio-wastes for production mehkar tahsil of buldhanaDistric,	Mrs. S. S. Deshmukh
2	Anshulika Ganesh Bhosale	To study the fungi associated with spoilage of bread	Mrs. S. S. Deshmukh
3	Ashwini Bhaskar Waghmare	Plant pollination and dispersal	Mrs. S. S. Deshmukh
4	Nishchita Vishnu Bahekar	Study of nutrient deficiency symptoms in green gram (vigna radiata)	Mrs. S. S. Deshmukh
5	Rashmi Subhash Sapkal	Importance of medicinal plant	Mrs. S. S. Deshmukh
6	Ruchita Jaychand Kochar	Documentation of plant remrdies for treatment of renal calculi	Mrs. S. S. Deshmukh
7	Ruchita Raju Todkar	Large scale crop production without soil	Mrs. S. S. Deshmukh
8	Sadaf Aqsa Arif Deshmukh	Increasing usage of plant Sincosmetics and skincare product	Mrs. S. S. Deshmukh
9	Saurabh Ananta Kakde	Ethanobotanical study of medicinal plants in buldhanadistrict	Mrs. S. S. Deshmukh
10	Shubham Vithoba Kharat	Use chitosan in plant defense	Mrs. S. S. Deshmukh
11	Vaishnavi DiwalsingDhirbassi	Diversity of climbers in the locality of washim	Mrs. S. S. Deshmukh



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 Sakharherda, Tq. & Raja Dist. Buldhana

Late. Bhaskarrao Shingne Arts Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College Sakharkherda  
Dist. Buldhana

M.SC (Chemistry)-II Sem-IV

LAB-VIII

**Project List with Topic and Appointed Mentor**

S.N.	Name of students	Project Topic/Title	Mentor
1	Rahul Vijayrao Deshmukh	Assessment of soil parameters in nearby villages of nalgaon in mahkar taluka	DR.P. R. Mahalle
2	Abhimanyu Shrikrushna Gawhad	Characterization of Bio-Therapeutics	DR.P. R. Mahalle
3	Achal Gajanan Wagh	Analysis of ground water akoladistrict	DR.P. R. Mahalle
4	Ansar Khan Taufique Khan	Assessment of ground water quality of the industrial area and residential area near by waluj	DR.P. R. Mahalle
5	Ashutosh Vasant Rao Zalte	Analysis of water sample of wells water and tube wells in ranantri	DR.P. R. Mahalle
6	Atul Prakash Wagh	Synthesis of aryloxy derivative of phenol by using green approach and study its microbial properties	DR.P. R. Mahalle
7	Bhagyashri Subhash Dhote	Analysis of irrigation water quality of village lonigawalbuldhanadistrict	DR.P. R. Mahalle
8	Gopal Sudam Thigale	Analysis of water quality from water sample nearby area of pangrikate	DR.P. R. Mahalle
9	Kalyani Rangnath Chhao	Water quality assessment of river morna through akola	DR.P. R. Mahalle
10	Kiran Tejrao Jawanjale	Synthesis characterisation and antibacterial activity of aurone derivatives	DR.P. R. Mahalle
11	Nikhil Gajanan Kharbhal (M.S.)	A study on some chemical parameter of yeldari dam in parbhanidistrict	DR.P. R. Mahalle



12	Nikhil Narayan Telharkar	Comparative study of physio-chemical parameters of surface water of agricultural and industrial area in Amravati district	DR.P. R. Mahalle
13	Pallavi Bharat Shewale	Assessment of ground water quality in nearby Jalna district	DR.P. R. Mahalle
14	Pooja Shivaji Sawadatkar	Assessment of ground water quality of river water and dam water nearby Nandra dhande area	DR.P. R. Mahalle
15	Pramod Shriram Gaikwad	Assessment of ground water quality of river water and dam water nearby hiwara ashram area	DR.P. R. Mahalle
16	Pratiksha Gajanan Thakare	Assessment of ground water quality of river water and dam water nearby nashik city area	DR.P. R. Mahalle
17	Rajani Sunil Jadhao	Agricultural soil analysis of some soil sample of nearby villages of dongaon taluka mehkar, dist. buldhana	DR.P. R. Mahalle
18	Rohit Ganesh Pachpor	Analysis of water quality and study of their different parameters of nearby area of Khamgaontq, dist. buldhana	DR.P. R. Mahalle
19	Rushikesh Sanjay Jaiwal	Agricultural soil analysis of some soil sample in the village sheludinchikli taluka, dist. buldhana	DR.P. R. Mahalle
20	Sakshi Madan Kale	Analysis of irrigation water quality of village akola in akoladistrict	DR.P. R. Mahalle
21	Shrikant Digambar Sawant	Analysis of industrial waste and waste management in ukalisuklitq. Mehkar Dist. Buldhana	DR.P. R. Mahalle
22	Shriram Gajanan Bhosale	Assessment of ground water quality of the residential and local area of village yelgaon dist. buldhana	DR.P. R. Mahalle



23	Vaibhav Adinath Thakare	Synthesis of Schiff bases and its some metal complexes of Ni, Cu & Co	DR.P. R. Mahalle
24	Vaibhav Sandeep Gawai	Assessment of ground water quality and its suitability for drinking and irrigation purposes of village nalgaontq. Mehkar dist. buldhana	DR.P. R. Mahalle
25	Vishal Dinkar Chikhalkar	Silica from rice hull ash	DR.P. R. Mahalle



**PRINCIPAL**

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 Sakinaka, Tq. & Raja Dist. Buldhana

1.3.2 No. of courses that include experiential learning through project work/field work/internship during the year

1.3.3 No. of students undertaking project work/field work/internship

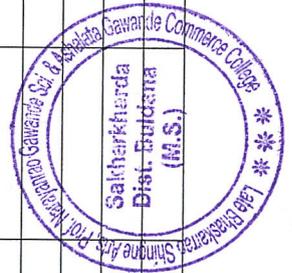
Sr. No.	Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Year of offering	Name of the student studied course on experiential learning through project work/field work/internship	Link of the relevent document
1	MSC BOTANY	MSC BOT	PROJECT WORK LAB VIII	BOL 402	2022-23	Aditya Laxmikant Wayal	<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Botany%20Syllabus&amp;Scheme.pdf">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Botany%20Syllabus&amp;Scheme.pdf</a>
2						Anshulika Ganesh Bhosale	
3						Ashwini Bhaskar Waghmare	
4						Nishchita Vishnu Bahekar	
5						Pravin Ramdas Korke	
6						Rashmi Subhash Sapkal	
7						Ruchita Jaychand Kochar	
8						Ruchita Raju Todkar	
9						Sadaf Aqsa Arif Deshmukh	
10						Saurabh Ananta Kakde	
11						Shubham Vinod Girgune	
12						Shubham Vithoba Kharat	
13						Swapnil Ramrao Garole	



14									Vaishnavi Diwalsing Dhirbassi
15									Vaishnavi Sanjay Chaudhri
16									Vijayshree Rameshwar Bhagat
									Rahul Vijayrao Deshmukh
17	MSC CHEMISTRY	MSC CHE	PROJECT WORK LAB VIII	CY407	2022-23				<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Chemistry%20Syllabus&amp;Scheme">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Chemistry%20Syllabus&amp;Scheme</a>
18									Abhimanyu Shrikrushna Gawhad
19									Achal Gajanan Wagh
20									Ansar Khan Taufique Khan
21									Ashutosh Vasantrao Zalte
22									Atul Prakash Wagh
23									Bhagyashri Subhash Dhote
24									Gopal Sudam Thigle
25									Kalyani Rangnath Jadhao
26									Kiran Tejarao Jawanjale
27									Nikhil Gajanan Kharbal
28									Nikhil Narayan Telharkar
29									Pallavi Bharat Shewale
30									Pooja Sajjan Akhade
31									Pooja Shivaji Sawadkar
32									Pramod Shriram Gaikwad
33									Pratiksha Gajanan Thakare
34									Rajani Sumil Jadhao
35									Rohit Ganesh Pachpor
36									Rushikesh Gajanan Murhe
37									Rushikesh Sanjay Jaiwal
38									Sakshi Madan Kale



39							Shrikant Digambar Sawant
40							Shriram Gajanan Bhosale
41							Vaibhav Adinath Thakare
42							Vaibhav Sandeep Gawai
43							Vishal Dinkar Chikhalkar
44	<b>B.SC</b>	<b>LBSACS B.Sc</b>	<b>INTERNSHIP</b>	<b>2022-23</b>			Ku. Ankita Gajanan Thosare <a href="https://www.sgbau.ac.in/Syllabus-Curriculum(CB">https://www.sgbau.ac.in/Syllabus-Curriculum(CB</a>
45							Ku. Ankita Vasudeo Solanki
46							Ku. Anuradha Bharat Hade
47							Ku. Arti AjabraoJadhao
48							Ku. Arti Ram Sonune
49							Ku. Arti Rameshwar Thigle
50							Ku. Bhakti Bajrang Purohit
51							Ku. Bharati Bhausaheb Deshmukh
52							Ku. Chaitali Arun Yendole
53							Ku. Dipali Dilip Shingne
54							Ku. Divya Madan Sukhadhane
55							Ku. Dnyaneshwari Anil Avhale
56							Ku. Dnyaneshwari Dipak Mawal
57							Ku. Durga AmbadasLahane
58							Ku. Harshada Janardhan Lambe
59							Ku. Harshada Kisan Awasarmol
60							Ku. Kiran Bandurao Deshmukh
61							Ku. Komal Badrinarayan Bhusari
62							Ku. Komal Dilip Shingne
63							Ku. Komal Prabhakar Shelke
64							Ku. Komal Shaligram Shinde
65							Ku. Komal Sunil Tupkar



66	Ku. Komal Waman Thosare								
67	Ku. Laxmi Mahadu Ingle								
68	Ku. Madhuri Pratapsing Suradkar								
69	Ku. Maya Baban Panchal								
70	Ku. Mayuri Dilip Tangade								
71	Ku. Meera Samadhan Thutte								
72	Ku. Megha Haribhau More								
73	Ku. Mohammad Riyaz Arshiya Sadaf								
74	Ku. Mohini Rajkumar More								
75	Ku. Naina Balu Gawande								
76	Ku. Namita Raghuvir Wagh								
77	Ku. Namrata Ganesh Mothe								
78	Ku. Nayan Nageshwar Magar								
79	Ku. Neha Siddharth Gawai								
80	Ku. Nikita Digambar Asabe								
81	Ku. Nikita Gajanan Deshmukh								
82	Ku. Nikita Sadashiv Jadhao								
83	Ku. Nikita Sanjay Tale								
84	Ku. Payal Vinod Gaikwad								
85	Ku. Pooja Bhanudas Zalte								
86	Ku. Pooja Haridas Jadhao								
87	Ku. Pragati Raju Gadekar								
88	Ku. Prashant Pravin Tupkar								
89	Ku. Pratiksha Babarao More								
90	Ku. Pratiksha Bramhanand Jadhav								
91	Ku. Pratiksha Dattatray Kharat								
92	Ku. Pratiksha Gajanan Shejol								
93	Ku. Pratiksha Gajanan Tupkar								
94	Ku. Prerana Arun Sarkate								





124	Ku. Sujata Anil Gawai								
125	Ku. Trupti Krushnarao Deshmukh								
126	Ku. Vaishnavi Ram Savadatakar								
127	Ku. Vaishnavi Abhiman Vairal								
128	Ku. Vaishnavi Bharat Garole								
129	Ku. Vaishnavi Bharat Takle								
130	Ku. Vaishnavi Dinkar Telang								
131	Ku. Vaishnavi Gajanan Magar								
132	Ku. Vaishnavi PralhadBendmali								
133	Ku. Vaishnavi Purushottam Lahane								
134	Ku. Vaishnavi Rajendra Mawal								
135	Ku. Vaishnavi Ramesh Tupkar								
136	Ku. Vaishnavi Ramprasad Sawadatkar								
137	Ku. Vaishnavi Santosh Chendalne								
138	Ku. Vaishnavi Santosh Kakade								
139	Ku. Vaishnavi Santosh Lahane								
140	Ku. Vaishnavi Tulshiram Wankhede								
141	Ku. Vidhya Pundlik Jadhav								
142	Mr. Aaditya Devendra Ghatte								
143	Mr. Abhijit Eknath Rajguru								
144	Mr. Abhijit Keshav Bhandarge								
145	Mr. Abhishek VyankatraoAwchar								
146	Mr. Aditya Harishchandra Jadhao								
147	Mr. Ajay Padurang Bali								
148	Mr. Akash Bhivsan Lambe								
149	Mr. Akash Ramdas Avhale								
150	Mr. Amjad Khan Farhan Khan								



151	Mr. Anand Dinkar Rindhe								
152	Mr. Aniket Murlidhar Hupale								
153	Mr. Anil Subhash Gawai								
154	Mr. Ankush Ashok Ingle								
155	Mr. Ankush Ramdas Sonune								
156	Mr. Ashok Sanjay Gawai								
157	Mr. Azhar Imran Mohammad Rehan								
158	Mr. Chandrakant Gajanan Kate								
159	Mr. Chetan Bhagvat Dhage								
160	Mr. Chetan Gajanan Kate								
161	Mr. Dhiraj Suresh Mulavkar								
162	Mr. Dnyaneshwar Ambadas Petakar								
163	Mr. Faizan Shaikh Dildar Shaikh								
164	Mr. Ganesh Murlidhar Mothe								
165	Mr. Ganesh Pradip Sarode								
166	Mr. Ganesh Sanjay Lande								
167	Mr. Ganesh Suresh Kute								
168	Mr. Girish Pramod Rajput								
169	Mr. Gopal Asaram Mundhe								
170	Mr. Ismail Khan Hasnain Khan								
171	Mr. Jagdish Vijay Tupkar								
172	Mr. Jay Ganesh Bali								
173	Mr. Karan Santosh Bhosale								
174	Mr. Karan Vishwanath Bendmali								
175	Mr. Majharkhan Farojkha Pathan								
176	Mr. Mangesh Ganesh Magar								
177	Mr. Mangesh Shirish Aminbhavi								
178	Mr. Mayur Vilas Kharat								



179	Mr. Nagesh Dnyaneshwar Sukhdhane								
180	Mr. Nikhil Manohar Kakde								
181	Mr. Nishant Janardhan Lahane								
182	Mr. Nitin Gajanan Solanke								
183	Mr. Om Keshav Bharad								
184	Mr. Om Subhash Thosare								
185	Mr. Om Vijay Gore								
186	Mr. Parmanand Sanjay Bundhe								
187	Mr. Pavan BhauraoKhandagale								
188	Mr. Pranav Bhagwat Nanhai								
189	Mr. Prashant Navnath Girhe								
190	Mr. Purushottam Samadhan Jadhao								
191	Mr.								
192	RadheshamShalikramPankhule								
193	Mr. Rahul Ganesh Jadhav								
194	Mr. Rahul Sanjay Ghongade								
195	Mr. Ram Vishvanath Vadankar								
196	Mr. Rohit Rajendra Kapare								
197	Mr. Rushikesh Kisan Petkar								
198	Mr. Rushikesh Vishnu Kokne								
199	Mr. Rutuja Bharat Jadhav								
200	Mr. Sagar Sandip Sonune								
201	Mr. Sairam Rajesh Wanere								
202	Mr. Samadhan Asaram Chinchole								
203	Mr. Sameer Aslamkhan Pathan								
204	Mr. Sandip Vasudev Ingale								
205	Mr. Sanket Pandhari Bundhe								
	Mr. Sanket Ram Yadav								



206	Mr. Santosh Ashok Lambe								
207	Mr. Santosh Radhesham Merat								
208	Mr. Satish Suresh Morey								
209	Mr. Shahin Shah Zafar Shah								
210	Mr. Shaikh Karim Shaikh Shoib								
211	Mr. Shivam Suresh Padre								
212	Mr. Shivprasad Shravan Shirale								
213	Mr. Shrikrushna Dattatray Dudhale								
214	Mr. Shubham Dnyaneshwar Kale								
215	Mr. Shubham Gajanan Garole								
216	Mr. Shubham Sanjay Dongre								
217	Mr. Siddeshwar Tukaram Solanki								
218	Mr. Siddhant Dilip Khillare								
219	Mr. Sk Samir Sk Salim Qureshi								
220	Mr. Soham Gajanan Bangale								
221	Mr. Sohil Buddha Bhavaniwale								
222	Mr. Sopan Bhaskar Lahane								
223	Mr. Sudarshan Pandhari Bangale								
224	Mr. Suhas Sunil Gade								
225	Mr. Sumit Sadanand Deshmukh								
226	Mr. Swapnil Devidas Ingle								
227	Mr. Swapnil Ganesh Jawanjaj								
228	Mr. Tejas Devanand Shiinde								
229	Mr. Tushar Ravindra Morey								
230	Mr. Ujwal Sanjabrao Hade								
231	Mr. Vaibhav Jagan Lahane								
232	Mr. Vishal Gajanan Tupkar								
233	Mr. Vitthal Murlidhar Shingne								
234	Mr. Vitthal Santosh Lahane								



235						Mr. Vivek Gajanan Dandade	
236						Mr. Yashpal Sheshrao Kankal	
237						Mr. Zahir Shah Rahim Shah	
238	B.A	LBSACS B.A	INTERNSHIP	2022-23		Ku. Amrapali Raju Gawai Ku. Aniza Nusrat Sayyad Mushtaque	<a href="https://www.sgbau.ac.in/Syllabus-Curriculum(CB">https://www.sgbau.ac.in/Syllabus-Curriculum(CB</a>
239							
240						Ku. Ankita Kailas Khadase	
241						Ku. Ashvini Suresh Chandore	
242						Ku. Dikshita Vijay Gawai	
243						Ku. Harshada Vishnu Sawant	
244						Ku. Harshali Purushottam Tayde	
245						Ku. Kanchan Sukhdev Gawai	
246						Ku. Komal Shantaram Gawai	
247						Ku. Laxmi Sanjay Kankal	
248						Ku. Laxmi Siddheshwar Gadekar	
249						Ku. Nikita Suresh Kavhale	
250						Ku. Nisha Sham Zine	
251						Ku. Pooja Gajanan Bhanapure	
252						Ku. Pooja Samadhan Tangade	
253						Ku. Pradnya Pradip Gawai	
254						Ku. Prajкта Pratap Gawai	
255						Ku. Punam Madhav Pithale	
256						Ku. Punam Subhash Tayade	
257						Ku. Rani Parasram Yewale	
258						Ku. Rupali Devanand Podhade	
259						Ku. Sakshi Gajanan Deshmukh	





285	Mr. Gopal Ganesh Rohi								
286	Mr. Gopal Vishnu Jadhao								
287	Mr. Harshal Vilas Jadhav								
288	Mr. Karan Pradip Jadhao								
289	Mr. Mangesh Madhukar Hagona								
290	Mr. Mukesh Laxman Gawai								
291	Mr. Pavan Gajanan Rajguru								
292	Mr. Pavan Kashinath Bendmali								
293	Mr. Pratik Gajanan Bhanapure								
294	Mr. Rahul ShrikisanUghade								
295	Mr. Ravi Dattatray Pofale								
296	Mr. Ravi Shenfad Shinde								
297	Mr. Roshan Prakash Khillare								
298	Mr. Rushikesh Ananda Gawade								
299	Mr. Rushikesh Anil Girhe								
300	Mr. Rushikesh Bhagawan Tayde								
301	Mr. Rushikesh Rajesh Nikhade								
302	Mr. Sagar Gautam Gawai								
303	Mr. Sandip Vijay Adbane								
304	Mr. Sayed Shakil Sayednawaz								
305	Mr. Shravan Bhimrao Awasarmol								
306	Mr. Sumit Shankar Palhad								
307	Mr. Suraj Dnyaneshwar Gawai								
308	Mr. Vaibhav Arun Gayki								
309	Mr. Vaibhav Gajanan Gayki								
310	Mr. Vaibhav Gautam Jadhao								



	M.SC MATHS	M.SC MATH	INTERNSHIP	2022-23	Ku. Archana Pundlik Wankhade Ku. Ashvini Rajaram Jagtap Ku. Dipali Sanjay Morey Ku. Divya Gajanan Vairale Ku. Jyotsna Vishwanath Raut Ku. Kanchan Abarao More Ku. Komal Atmaram Jadhao Ku. Madhuri Pralhad Shinde Ku. Mansi ShubhashChunawale Ku. Nikita Ramesh Kakde Ku. Pooja Gajanan Kele Ku. Pooja Raju Narwade Ku. Poonam Vishnu Sanap Ku. Pradnya Dilip Landge Ku. Pranjali Ramesh Kale Ku. Pratiksha Pralhad Pawar Ku. Priyanka Prabhakar Wayal Ku. Punam Vinod Surushe Ku. Renuka Dnyaneshwar Sonune Ku. Savitri SombhagwanBodkhe Ku. Shilpa Bharat Shelke Ku. Shital ShrikisanSuradkar	<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Mathematics%20Syllabus&amp;Scher">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Mathematics%20Syllabus&amp;Scher</a>
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333									Ku. Shivani Sanjay Shelke
334									Ku. Sonal Rajendra Chaitane
335									Ku. Vaishnavi Narayan Yeole
336									Ku. Vaishnavi Rajendra Mhaske
337									Ku. Vrushi Vishwanath Raut
338									Mr. Ajay Santosh Shinde
339									Mr. Akash Laxman Bendmali
340									Mr. Akash Sanjay Bagde
341									Mr. Akshay Dattatray Bangale
342									Mr. Akshay Gajanan Ingle
343									Mr. Amol Devidas Ingale
344									Mr. Anil Ramesh Bajad
345									Mr. Bhavesh Sheshrao Salve
346									Mr. Harshal Bhagwan Sonune
347									Mr. Mahesh Gajanan Gaikwad
348									Mr. Nikhil Ramesh Jaiwal
349									Mr. Pravin Sudhakar Parhad
350									Mr. Sachin Mansing Pawar
351									Mr. Suresh Rajaram Gawai
352									Mr. Uday Purushottam Jadhav
353									Mr. Umesh Gajanan Padghan
354									Mr. Vaibhav Waman Pawar
355									Mr. Yash Dnyaneshwar Pawar
356									Mr. Yogesh Rajkumar Bodkhe
357									Ku. Ashwini Prabhakar Deshmukh



[https://sgbau.ac.in/Syllabus-Curriculum\(CBCS\)2023/M%20Sc%20Chemistry%20Syllabus&Scheme.](https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Chemistry%20Syllabus&Scheme.)

2023

INTERNSHIP

M.SC CHE

M.SC (CHEM)



380	M.SC (BOTANY)	M.SC BOT	INTERNSHIP			2022-23	Ku. Ashwini Dattatray Khandagale	<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Botany%20Syllabus&amp;Scheme.pdf">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Botany%20Syllabus&amp;Scheme.pdf</a>
381							Ku. Manjushri Ashokrao Pihulkar	
382							Ku. Rutuja Dipak Mitkari	
383							Ku. Sucheta Nandkishor Khedekar	
384							Ku. Vaishnavi Sheshrao Ambhore	
385							Mr. Akash Dattatraya Bhutekar	
386							Mr. Pradeep Dipak Mitkari	
387							Mr. Pratap Nandkishor Jadhao	
388	M.SC (PHYSICS)	M.SC PHY	INTERNSHIP			2022-23	Ku. Ashlesha Gajanan Jadhao	<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Physics%20Syllabus&amp;Scheme.pdf">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Physics%20Syllabus&amp;Scheme.pdf</a>
389	M.SC (ZOOLOGY)	M.SC ZOO	INTERNSHIP			2022-23	Ku. Anuradha Prakash Khodke	<a href="https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Zoology%20Syllabus&amp;Scheme.pdf">https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M%20Sc%20Zoology%20Syllabus&amp;Scheme.pdf</a>
390							Ku. Dnyaneshwari Sanjio Lahole	
391							Ku. Kalpana Prakash Punde	
392							Ku. Neha Salim Shaikh	
393							Ku. Prachi Dinkar Gadekar	
394							Ku. Rupali Dattatraya Dhote	



395									Ku. Sapna Gopal Ambhore
396									Ku. Vidhya Sheshrao Ghube
397									Ku. Zebatarannum Nisar Khan
398									Mr. Rushikesh Ruprao Tupkar
	<b>M.A (MARATHI)</b>								
399									Ku. Archana Sanjay Panchal
400									Ku. Manisha Rajeshwar Sarkate
401									Ku. Neha Bhagwat Gawai
402									Mr. Nilesh Arun Magar
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	<b>M.A (SOCIOLOGY)</b>								
405									Mr. Pandurang Vitthal Kachare
406									Mr. Sunil Rangnath Bhusari
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407									Ku. Chanda Dnyaneshwar Jumde
408									Ku. Gayatri Sanjay Rajguru
409									Ku. Jai Maroti More
410									Ku. Neha Kisan Malode
411									Ku. Nikita Ambadas Aglave
412									Ku. Pallavi Gajanan Mankar
413									Ku. Pallavi Prakash Avhale
414									Ku. Payal Ramesh Ambhore

[https://sgbau.ac.in/Syllabus-Curriculum\(CBCS\)2023/M.A.%20Marathi%20Sem%20I%20&%20II%20](https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M.A.%20Marathi%20Sem%20I%20&%20II%20)

[https://sgbau.ac.in/Syllabus-Curriculum\(CBCS\)2023/M.A.%20Sociology%20\(Syllabus\)%20Semester](https://sgbau.ac.in/Syllabus-Curriculum(CBCS)2023/M.A.%20Sociology%20(Syllabus)%20Semester)

[https://www.sgbau.ac.in/Syllabus-Curriculum\(CB](https://www.sgbau.ac.in/Syllabus-Curriculum(CB)



415	Ku. Priyanka Vikas Khandare								
416	Ku. Punam Vishnu Gawai								
417	Ku. Rani Nitin Tajane								
418	Ku. Roshani Pramod Gawai								
419	Ku. Sakshi Dilip Hiwale								
420	Ku. Sakshi Ravindra Gite								
421	Ku. Sharda Madhav Panchal								
422	Ku. Shivani Baban Wayal								
423	Ku. Shruti Sunil Kame								
424	Ku. Shubhangi Gajanan Awachar								
425	Ku. Shweta Digambar Adbane								
426	Ku. Vaishnavi Narayan Sakhare								
427	Mr. Aniket Raju Kavhale								
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429	Mr. Avinash Dattatray Sirsat								
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431	Mr. Chetan Gautam Hiwale								
432	Mr. Darshan Bhaskar Tayde								
433	Mr. Dhammadip Bhaskar Sirsat								
434	Mr. Gajanan Ramdas Ingle								
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440	Mr. Manoj Baburao Shelke								
441	Mr. Nikhil Ganesh Bachate								
442	Mr. Orm Vishwas Avchar								



443							Mr. Pavan Manikrao Solanki
444							Mr. Prasad Nandkishor Chaware
445							Mr. Pratik TanajiChankhore
446							Mr. Rajkumar Laxman Dhotre
447							Mr. Rutik Vijay Kame
448							Mr. Samir Ganga Naurangabadi
449							Mr. Sanket Santosh Mandalkar
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451							Mr. Sheikh Chand Sheikh Rajik
452							Mr. Shubham Ambadas Shelke
453							Mr. Umesh Devidas Chavhan
454							Mr. Vijay Dhonducheke
455							Mr. Yash Anil Jaiswal
456							Mr. Yash Laxman Jagtap



**PRINCIPAL**  
 Late Bhaskarrao Shingane Arts,  
 Prof. Nivrattirao Gawande Science &  
 Ashalata Gawande Commerce College,  
 Sakharikherda, Tq. & Raja Dist. Buldhana

**"A Study on Utilization of Bio-wastes for production Mehkar tahsil of  
Buldhana District."**

**A Dissertation Submitted**

**To**

**SANT GADGE BABA AMRAVATI UNIVERSITY  
AMRAVATI**



**In Partial fulfillment of Degree of Master of Science in  
Subject : Botany**

**Submitted by  
Ku. Aditya Laxmikant Wayal**

**Under the supervision of  
DR. S. S. Deshmukh  
Assitt. Professor.  
P. G. Department of Botany,**



**Late B. S. Arts, Prof. N. G. Science & A. G. Commerce  
College, Sakharherda. 443202**

**2022-23**

P. G. Department of Botany

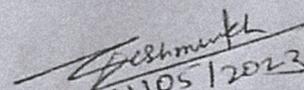
Late B. S. Arts, Prof. N. G. Science & A. G. Commerce  
College, Sakharkherda. 443202

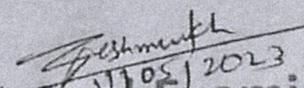
## CERTIFICATE

This is certified that the project entitled "A Study on Utilization of Bio-wastes for production Mehkar tahsil of Buldhana District." of practical 8<sup>th</sup> is personally completed work carried out by Ku. Aditya Laxmikant Wayal of M. Sc. Botany Semester IV<sup>th</sup> of this college for a period of 2022 to 2023 at this department.

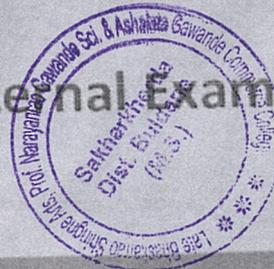
Prof. In Charge

Date :

  
11/05/2023  
Head of Department

  
11/05/2023  
Internal Examiner

External Examiner



**"To Study the Fungi Associated With Spoilage Of Bread"**

**A Dissertation Submitted**

**To**

**SANT GADGE BABA AMRAVATI UNIVERSITY AMRAVATI**

**In Partial fulfillment of Degree of Master of Science in  
Subject : Botany**

**Submitted by Ku. ANSHULIKA GANESHRAO BHOSALE**

**Under the supervision  
of Dr.S.S.Deshmukh  
Assitt. Professor.**

**P. G. Department of Botany,**

**Late B. S. Arts, Prof. N. G. Science & A. G. Commerce  
College, Sakharkherda.**

**443202**



**2022-23**

Late B.S. Arts , Prof. N.G. Science & A.G. Commerce College

Shakharkherda

DEPARTMENT OF BOTANY

Dr. S.S.Deshmukh

Assistant Professor  
P.G. Department

Date : / / 2023

Certificate

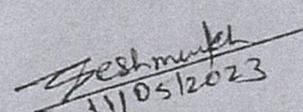
This is to certify that project entitled **"To Study The Fungi Associated With Spoilage Of Bread"** submitted for the award of the degree **MASTER OF SCIENCE IN BOTANY** in the faculty of Science to the **Sant Gadge Baba Amravati University , Amravati** embodies the bonafide research work carried out by **MISS. ANSHULIKA GANESHRAO BHOSALE** under my guidance and supervision . No part of project has been submitted for any degree . All the assistance and help availed of during the course of this investigation and source of literature have been Duly acknowledged .

Date : 11/05/2023

Place :- Sakharkherda

Forwarded through :

Head, P.G. Department of Botany

  
11/05/2023  
Mr S.S.Deshmukh  
Supervision  


# **“PLANT POLLINATION AND DISPERSAL”**

**A dissertation submitted  
To  
SANT GADGE BABA AMARAVATI UNIVERSIT, AMARAVATI**

**In partial fulfillment of Degree of Master of Science In**

**Subject Botany**

**Submitted by  
Ashwini Bhaskarrao Waghmare**

**Under the supervision of**

**Mrs. S. S. DESHMUKH**

**Assitt. Professor  
P. G. Department of Botany**

**Late B. S. Art's Prof. N. G. Science & A.G. Commerce College,  
Sakharkherda. 443202**



**2022-2023**

**P.G. Department of Botany**  
**Late B. S. Art's, Prof. N. G. Science & A. G. Commerce**  
**College,**  
**Sakharkherda. 443202**

## **CERTIFICATE**

This is certified that the project "PLANT POLLINATION AND DISPERSAL" of practical 8<sup>th</sup> is personally completed work carried out by **Ashwini Bhaskarrao Waghmare** of M.Sc. Botany semester IV<sup>th</sup> of this college for a period of 2022-2023 at this department.

**Prof. In Charge : Mrs. S. S. Deshmukh**

**Date:**



*S. S. Deshmukh*  
11/05/2023  
**Head of department**

*S. S. Deshmukh*  
11/05/2023  
**Internal Examiner**

**External Examiner**

***"Study of Nutrient Deficiency Symptoms In  
Green Gram (Vigna radiata)"***

A dissertation submitted

**NT GADGE BABA AMARAVATI UNIVERSITY AMARAVATI**

In partial fulfilment of degree of Master of Science in Subject

**Botany**

Submitted by

Nishchita Vishnu Bahekar

Under the supervision of

Prof .S.S.Deshmukh

Assitt.Professor

**P.G.Department of Botany,**

**e B. S. Arts, Prof. N. G. Science And A. G. Commerce College,**

**Sakharkherda.**

443202



2022-2023

# P. G. Department of botany

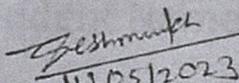
Late B. S. Arts, Prof. N. G. Science And A. G. Commerce  
Sakharkherda.44302

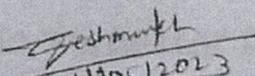
## CERTIFICATE

This is certified that the project entitled "STUDY OF NUTRIENT DIFICIENCY SYMPTOMS IN GREEN GRAM" Of practical 8<sup>th</sup> is personally completed work carried out by Nishchita Vishnu Bahekar of M. Sc. Botany Semester IV th Of the this college for a period of 2022-2023 at this Department.

Prof. In charge

Date: 11/05/2023

  
11/05/2023  
Head of department

  
11/05/2023  
Internal Examiner



External Examiner

# Importance Of Medicinal Plants

A Dissertation Submitted

To

SANTA GADGE BABA AMRAVATI UNIVERSITY,  
AMARAVATI

In partial fulfillment of degree of Master of In  
subject botany

Submitted by

Rashmi subhash sapkal

Under the Supervision Of

Mrs. S. S. Deshmukh

Assitt. Professor

P. G. Department of botany, Late B. S. Arts, prof.

N. G. Science & A. G. Commerce

college,sakharkherda 443201



2022-2023

## P. G. Department of Botany

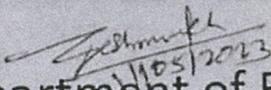
Late B. S. Arts, prof. N. G. Science & A. G.  
Commerce college, Sakharkherda. 443201

# Certificate

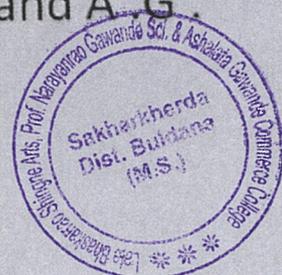
this is certified that the project entitled  
importance of medicinal plants of practical  
of personally completed work Carried out by  
Rashmi Subash Sapkal Of MSC botany  
semester 4th of this college for a period of  
2022 – 2023 at this Department.

Studeat Name – Rashmi Subhash Sapkal  
R.S. sapkal

M.Sc. semester IV

  
11/05/2023  
Department of Botany

Late B. S. Arts, prof N. G. Science and A. G.  
Commerce college, Sakharkherda



*“Documentation Of Plant Remedies For Treatment Of Renal Calculi”*

A dissertation Submitted

To

**SANT GADGE BABA AMARAVATI UNIVERSITY  
AMARAVATI**



In Partial fulfillment for the degree of, Master Of Science Of Science in Botany

By

**RUCHITA JAYCHAND KOCHAR**

Under the supervision of

**Dr. S. S. Deshmukh**

Assistant Professor

P.G Department of Botany

**Late B.S. Arts , Prof.N.G Science & A.G. Commerce College**

**Shakharkerda 443302 (2023-24)**



Late B.S. Arts , Prof. N.G. Science & A.G. Commerce College

Shakharkherda

DEPARTMENT OF BOTANY

Dr. S.S.Deshmukh

Assistant Professor  
P.G. Department of Botany

Date : / / 2023

Certificate

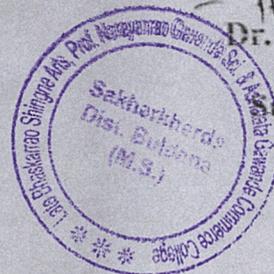
This is to certify that project entitled "**Documentation Of Plant Remedies For Treatment Of Renal Calculi**" submitted for the award of the degree **MASTER OF SCIENCE IN BOTANY** in the faculty of Science to the **Sant Gadge Baba Amravati University , Amravati** embodies the bonafide research work carried out by **MISS. RUCHITA. J. KOCHAR** under my guidance and supervision . No part of project has been submitted for any degree . All the assistance and help availed of during the course of this investigation and source of literature have been Duly acknowledged .

Date : 11/05/2023

Place :- Sakharkherda

For warded through :

Head, P.G. Department of Botany



*Dr. S.S. Deshmukh*  
11/05/2023  
Dr. S.S. Deshmukh  
Supervision

**“LARGE SCALE CROP PRODUCTION WITHOUT SOIL”**

A Dissertation Submitted

To

**SANT GADGE BABA AMARAVATI UNIVERSITY  
AMARAVATI**



**In Partial fulfillment of the Degree of Master of Science in Botany**

**Submitted by**

**RUCHITA RAJU TODKAR**

**Under the supervision of**

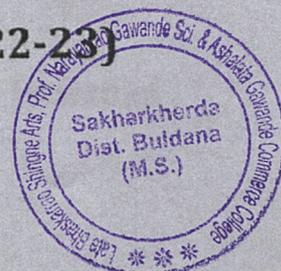
**Mrs. S. S. Deshmukh**

**Assistant Professor**

**P.G. Department of Botany**

**Late B.S. Arts , Prof.N.G Science & A.G. Commerce College**

**Shakharkerda 443302 (2022-23)**



Late B. S. Arts , Prof. N. G. Science & A. G. Commerce College

Sakharkherda, 443202

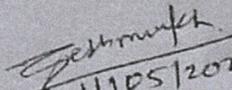
DEPARTMENT OF BOTANY

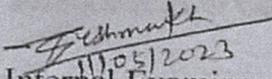
## CERTIFICATE

This is to certify that project entitled “**LARGE SCALE CROP PRODUCTION WITHOUT USE OF SOIL**” of practical 8<sup>th</sup> is personally completed research work carried out by **MISS. RUCHITA R. TODKAR** of M.Sc. Botany semester IV<sup>th</sup> of this college for a period of 2022-2023 at this department. No part of project has been submitted for any degree . All the assistance and help availed of during the course of this investigation and source of literature have been duly acknowledged .

Prof.In-charge : **Mrs .S.S. Deshmukh**  
(Assistant Prof.)

Date : 11/05/2023

  
11/05/2023  
P.G.Head Department of Botany

  
11/05/2023  
Internal Examiner

External Examiner



**“INCREASING USAGE OF PLANTS IN COSMETICS  
AND SKINCARE PRODUCTS”**

**A dissertation submitted  
To**

**SANT GADGE BABA AMARAVATI UNIVERSIT, AMARAVATI**

**In partial fulfillment of Degree of Master of Science In**

**Subject Botany**

**Submitted by**

**SADAF AQSA ARIF DESHMUKH**

**Under the supervision of**

**Mrs. S.S. DESHMUKH**

**Assitt. Professor**

**P. G. Department of Botany**

**Late B. S. Art's Prof. N. G. Science & A.G. Commerce College,  
Sakharkherda. 443202**



**2022-2023**

P.G. Department of Botany  
Late B. S. Art's, Prof. N. G. Science & A. G. Commerce  
College,  
Sakharkherda. 443202

## CERTIFICATE

This is certified that the project entitle "INCREASING USAGE OF PLANTS IN COSMETICS AND SKINCARE PRODUCTS" of practical 8<sup>th</sup> is personally completed work carried out by SADAF AQSA ARIF DESHMUKH of M.Sc. Botany semester IV<sup>th</sup> of this college for a period of 2022-2023 at this department.

Prof. In Charge : Mrs. S. S. Deshmukh

Date:



*S. S. Deshmukh*  
11/05/2023  
Head of department

*S. S. Deshmukh*  
11/05/2023  
Internal Examiner

External Examiner

**"ETHANOBOTANICAL STUDY OF MEDICINAL PLANTS  
IN BULDHANA DISTRICT"**

A dissertation submitted To

**SANT GADGE BABA AMARAVATI UNIVERSITY,  
AMARAVATI**



In partial fulfillment of Degree of Master in subject of  
**Botany**

**Submitted by**  
**Mr. Saurabh Ananta Kakde**

**Under the supervision of**  
**Dr. Shubhangi Deshmukh**  
&  
**Mr. Anup D. Padwal**

**Assistant Professor,**

**P.G. Department of Botany**



**Late B. S. Arts, Prof. N.G. Science and A.G. Commerce College,**

**Sakharkherda-443202**

**2022-2023**

P.G. Department of Botany,

Late B . S. Arts, Prof. N.G. Science and A.G. Commerce College,

Sakharkherda-443202

## CERTIFICATE

This is to certify that a Project entitled "ETHNOBOTANICAL STUDY OF MEDICINAL PLANT IN BULDHANA DISTRICT" of practical 8<sup>th</sup> is personally completed work carried out by SAURABH ANANTA KAKDE OF M.Sc. Botany Semester 4<sup>th</sup> of this college for a period of 2022-2023 at this department

*Peshmunt*  
05/05/2023  
Prof. Incharge

*Peshmunt*  
05/05/2023

Head of Department  
Head

Deptt. of Botany

Late. Bhaskarrao Shingane A. S. College,  
Sakharkherda, Tq. S.Raja. Dist. Buldana

Date

Internal Examiner

External Examiner



**Use Chitosan in Plant Defense** \*

A dissertation submitted

To

Sant Gadge Baba Amravati University



in partial fulfillment of the degree of Master of Science  
in Botany

By

**Mr. Shubham vithoba kharat**

Under supervision of prof. S.S Deshmukh &

Mr Anup D Padawal (Assistant professor)

**Late B.S.Art's, Prof. NG. Science & A.G. Commerce  
College, Sakharkherda (443202)**

**(2022-2023)**





e B.S.Art's, Prof.NG.Science & A.G.Commerce  
lege, Sakharkherda

POST GRADUATION DEPARTMENT OF BOTANY

**\* CERTIFICATE \***

This is to certify that **SHUBHAM VITHOBA  
ARAT**, student of M.Sc 2<sup>nd</sup> year 4<sup>th</sup> semester  
Department of Botany, has completed bonafide work  
on the thesis entitled '**use of chitosan to control plant  
diseases**' under my supervision and guidance

*[Signature]*  
21/05/2023  
In-charge



*[Signature]*  
21/05/2023  
Head of Botany

Head  
Department  
B.S.Arts, Prof. N.G. Sci. & A.G.Com  
College, Sakharkherda, Dist. Buldan

ASSESSMENT OF SOIL PARAMETERS IN NEARBY VILLAGES OF  
NAIGAON IN MEHKAR TALUKA

PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITI, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

RAHUL VIJAYRAO DESHMUKH

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



P.G. DEPARTMENT OF CHEMISTRY  
LATE B.S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA

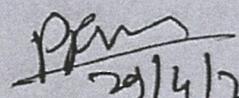
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Rahul Vijayrao Deshmukh of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 29/04/2023

Place: Sakharkherda

  
29/4/23,  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



A  
REPORT ON  
CHARACTERIZATION OF BIO-THERAPEUTICS

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

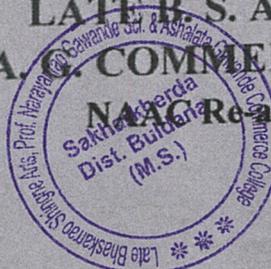
ABHIMANYU SHRIKRUSHNA GAWHAD

Under the guidance of

Dr. Prashant R. Mahalle  
Assistant Professor & Head,  
Department of Chemistry,

*Examined*  
*Shris*

P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. C. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023



Late Bhaskardeo Shrikrushna Prof. Mahalle  
Sakharkherda  
Dist. Buldana  
(M.S.)  
A. C. Commerce College

## CERTIFICATE

This is to certify that the work presented in the dissertation of this project report was carried out by student Abhimanyu Shrikrushna Gawhad of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 04/05/2023

Place: Sakharkherda

*P.R.M.*  
04/05/2023

Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



# ANALYSIS OF GROUND WATER AKOLA DISTRICT

PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

## CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

ACHAL GAJANAN WAGH

Under the guidance of

Dr. Prashant R. Mahalle  
Assistant Professor & Head,  
Department of Chemistry,



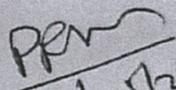
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LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA

NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Achal Gajanan Glagh of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 4/5/2023  
Place: Sakharkherda

  
04/05/2023  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**Assessment of Ground Water quality of the Industrial  
Area and Residential Area nearby Waluj**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**Taufique Khan Ansar Khan**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

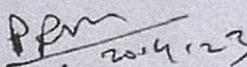
*Examined  
PBW*

## *Certificate*

This is to certify that the work presented in the dissertation of this project report was carried out by student **Taufique Khan Ansar Khan** of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 24/4/2023

Place: Sakharkherda

  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**Analysis of Water Samples of Wells Water and Tube wells  
in Ranantri  
PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfillment of the Requirements For  
the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work -Examination S - 2023**

By

**Ashutosh Vasantao Zalte**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,

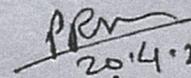
*Examined  
Bar*

**P.G. DEPARTMENT OF CHEMISTRY  
ATE B.S. ARTS, PROF. N.G. SCIENCE AND  
COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA3.02  
2022-2023**



## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student **Ashutosh Vasantao Zalte** of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

  
20/4/2023,  
Supervisor  
**Dr. P. R. Mahalle**  
Assistant Professor & Head

Date: 20/04/2023  
Place: Sakharkherda



Synthesis of Aryloxy derivative of phenol by using green approach  
and study its microbial properties

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV**  
**Practical VIII - Project Work - Examination S - 2023**

By

**Atul Praksh Wagh**

**Under the guidance of**

**Dr. Prashant R. Mahalle**  
**Assistant Professor & Head,**  
**Department of Chemistry,**

*Examined  
Prashant R. Mahalle*



**P.G. DEPARTMENT OF CHEMISTRY**  
**LATE B. S. ARTS, PROF. N. G. SCIENCE AND**  
**A. G. COMMERCE COLLEGE, SAKHARKHERDA**

**NAAC Re-accredited Grade 'A' with CGPA- 3.02**  
**2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Atul Prakash Wagh of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 04/05/2023

Place: Sakharkherda

*PRM*  
*04/05/23*

**Supervisor**  
**Dr. P. R. Mahalle**  
Assistant Professor & Head



**Analysis of Irrigation water Quality of Village Loni  
Gawali Buldhana District**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

Bhagyashri Subhash Dhote

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA**

**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

# Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student

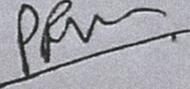
Bhagyashri Subhash Dhote of M.Sc. Part-II, semester IV (Chemistry)

under my supervision during the academic Session 2022-23

29/4/23.

Date: / / 2023

Place: Sakharkherda



Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



ANALYSIS OF WATER QUALITY FROM WATER SAMPLE  
NEARBY AREA OF PANGRI KATE

PROJECT REPORT

SUBMITTED TO

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the partial fulfilment of the requirements  
For the degree of master of science in

CHEMISTRY  
OF

M.SC. PART II SEMESTER IV  
PRACTICAL VIII - PROJECT WORK - EXAMINATION 2023

BY

GOPAL SUDAM THIGALE

Under the guidance of

Dr.P.R. Mahalle

Assistant professor & Head,

Department of Chemistry

Late B.S. Arts, Prof.N.G. Science and

A.G. Commers Collage, Sakharkherda

P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND A. G. COMMERCIAL  
COLLEGE, SAKHARKHERDA



NAAC ACCREDITED GRADE 'A' WITH CGPA- 3.02  
2022-2023

# CERTIFICATE

This is to certify that the work presented in the dissertation of this project report was carried out by student \_\_\_Gopal Sudam Thigale\_\_\_\_\_ of M.Sc. Part-II, semester IV (Chemistry) under my supervision DURING THE ACADEMIC SESSION 2022-23

Date: 21/4/2023

Place: Sakharkherda

*PRM*  
21.4.23.

Supervisor

Dr. P. R. MAHALLE

M.Sc. II Sem. IV

P. G. Department of Chemistry

Late B. S. Arts, Prof. N. G. Science and A. G.

Commerce College, Sakharkherda



# Water Quality Assessment Of River Morna Through Akola

## PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

## CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

Kalyani Rangnath Jadhao

*Completed  
PBJ*

Under the guidance of

**Dr. Prashant R. Mahalle**  
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Department of Chemistry,

P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA

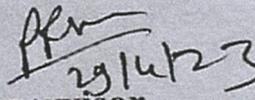
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023



# Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Kalyani Rongnath Tadhao of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 29/4/2023  
Place: Sakharkherda

  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**“Synthesis, characterisation and antibacterial activity  
of aurone derivatives”**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**Kiran Tejarao Jawanjale**

**Under the guidance of**

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



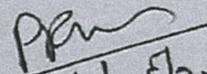
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LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA**  
NAAC: Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023

# Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Kiran Tejorao Jawanjal of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 04/05/2023

Place: Sakharkherda

  
04/05/2023.

Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



# A STUDY ON SOME CHEMICAL PARAMETER OF YELDARI DAM IN PARBHANI DISTRICT

## PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the Partial fulfillment of the Requirements  
For the degree of Master of Science in

## CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

NIKHIL GAJANAN KHARBAL

Under the guidance of

**Dr. Prashant R. Mahalle**

Assistant Professor & Head,  
Department of Chemistry,



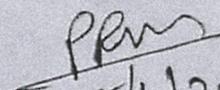
P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA

NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Nikhil Gajanan Khasbal of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 25/4/2023  
17/2023  
Place: Sakharkherda

  
25/4/2023

Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**COMPARATIVE STUDY OF PHYSIO-CHEMICAL PARAMETERS OF  
SURFACE WATER OF AGRICULTURAL AND INDUSTRIAL AREA IN  
AMRAVATI DISTRICT**

**PROJECT REPORT**

**Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

**For the Partial fulfilment of the Requirements  
For the degree of Master of Science in**

**CHEMISTRY**

**Of**

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

**By**

**Nikhi N. Telharkar**

**Under the guidance of**

**Dr. Prashant R. Mahalle  
Assistant Professor & Head,  
Department of Chemistry,**

**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
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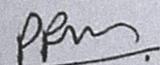
**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**



## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Nikhil N. Telharkar of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 29/4/2023  
Place: Sakharkherda

  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**ASSESSMENT OF GROUND WATER  
QUALITY IN NEAR BY JALNA DISTRICT  
PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**PALLAVI BHARAT SHEWALE**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
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**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Pallavi Bhalat Shewale of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 4/5/2023

Place: Sakharkherda

*PRM*  
04/05/2023.

Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



**ASSESSMENT OF GROUND WATER QUALITY  
OF RIVER WATER AND DAM WATER NEARBY  
NANDRA DHANDE AREA**

**PROJECT REPORT**

**Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

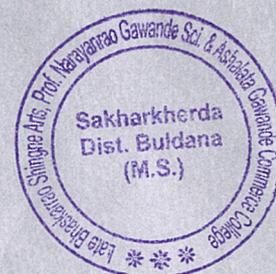
**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**POOJA SHIVAJI SAWADATKAR**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



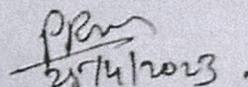
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LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Pooja Shivaji Sawadkar of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 28/4/2023

Place: Sakharkherda



Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



**ASSESSMENT OF GROUND WATER QUALIITY  
OF RIVER WATER AND DAM WATER NEARBY  
HIWARA ASHRAM AREA**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITI, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**PRAMO SHRIRAM GAIKWAD**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,

*Pramo Shriram Gaikwad*



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA**

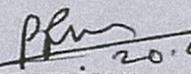
**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student PRAMOD SHRIRAM GAIKWAD of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 20/4/2023

Place: Sakharkherda

  
20.4.2023,

Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



# ASSESSMENT OF GROUND WATER QUALITY OF RIVER WATER AND DAM WATER NEARBY NASHIK CITY AREA

PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITI, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

PRATIKSHA GAJANAN THAKARE

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,

P.G. DEPARTMENT OF CHEMISTRY  
LATE S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA

NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023



## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Pratiksha Wajanan Jhokare of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 28/4/2023

Place: Sakharkherda

*PPM*  
25/4/2023.

Supervisor

Dr.P. R. Mahalle

Assistant Professor & Head



**Agricultural Soil Analysis of some soil samples Of  
Nearby villages Of Dongaon taluka Mehkar, dist.  
Buldana**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITI, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**Rajani Sunil Jadhao**

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Rajani Sunil Jadhao

of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

*04/03/2023*  
Date: 30 / 03 / 2023  
Place: Sakharkherda

*PRM*  
*04/03/2023*  
Supervisor  
**Dr. P. R. Mahalle**  
Assistant Professor & Head



**ANALYSIS OF WATER QUALITY AND STUDY  
OF THEIR DIFFERENT PARAMETERS OF  
NEARBY AREA OF KHAMGAON TQ,  
DIST. BULDHANA.**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**Rohit Ganesh Pachpor**

Under the guidance of

**Dr. Prashant R. Mahalle  
Assistant Professor & Head,  
Department of Chemistry,**



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA**

**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## *Certificate*

This is to certify that the work presented in the dissertation of this project report was carried out by student **Rohit Ganesh Pachpor** of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 25/4/2023

Place: Sakharkherda

*PRM*  
*25/04/2023*

**Supervisor**

**Dr. P. R. Mahalle**

**Assistant Professor & Head**



**Agricultural Soil Analysis of some soil samples in the  
village Sheludin chikhilaluka, dist. Buldana**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**Rushikesh Sanjay Jaiwal**

Under the guidance of

**Dr. Prashant R. Mahalle  
Assistant Professor & Head,  
Department of Chemistry,**



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Rushikesh Sanjay Jaiwal

of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

*29/4/23*  
Date: 30 / 03 / 2023  
Place: Sakharkherda

*PRM*  
*29/4/23*  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head



**Analysis of Irrigation water quality of village  
Akola in district Akola  
PROJECT REPORT**

Submitted to

**Sant Gadge Baba Amravati University, Amravati**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science  
In

**Chemistry**

Of

M.Sc. Part II Semester IV

**Practical VIII- Project Work- Examination 2023**

Roll No:-

By

**Ku. Sakshi Madan Kale**

**P.G. DEPARTMENT OF CHEMISTRY**

**Late B.S. ARTS, PROF. N.G.SCIENCE AND A.G. COMMERCE  
COLLEGE, SAKHARKHERDA**

**NAAC Accredited Grade 'B' with CGPA-2.43  
2020-2021**

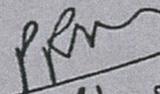


# Certificate

I certify that this work presented in the project report was carried Out by student SAKSHI MADAN KALE Of M.SC Part -II, semester IV ( chemistry) under my supervision.

Date : 04/05/2023

Place: sakharkherda

  
04/05/2023  
Supervisor

**Dr.P.R. Mahalle**  
Assistant professor and Head  
Department of chemistry  
Late B.S. Arts ,prof. N.G. Science  
And A.G Commerce college ,sakharkherda



**ANALYSIS OF INDUSTRIAL WASTE AND WASTE  
MANAGEMENT IN UKALI SUKALI TQ.MEHKAR  
DIST.BULDHANA**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfillment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**SHRIKANT DIGAMBAR SAWANT**

*Examinial*  
*P.S.*

**Under the guidance of**

**Dr. Prashant R. Mahalle**

**Assistant Professor & Head,  
Department of Chemistry,**



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA**

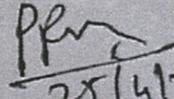
**NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Shajkant Digambar Sawant of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date: 25/4/2023

Place: Sakharkherda

  
25/4/2023.

Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



ASSESSMENT OF GROUND WATER QUALITY OF THE  
RESIDENTIAL AND LOCAL AREA OF VILLAGE YELGAON DIST  
BULDHANA

PROJECT REPORT

Submitted to  
SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

CHEMISTRY

Of

M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023

By

SHRIRAM GAJANAN BHOSALE

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,

P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02  
2022-2023

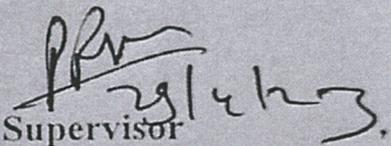
## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Shriram Gajanan Bhosale of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

Date:

29/4/23,  
2023

Place: Sakharkherda

  
Supervisor

Dr. P. R. Mahalle  
Assistant Professor & Head

**ASSESSMENT OF WATER QUALITY AND ITS  
SUITABILITY FOR DRINKING AND  
IRRIGATION PURPOSES OF VILLAGE  
NAIGAON TQ. MEHKAR DIST. BULDHANA**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV  
Practical VIII - Project Work - Examination S - 2023**

By

**VAIBHAV SANDEEP GAWAI**

*Examined  
P.G.*

Under the guidance of

**Dr. Prashant R. Mahalle**  
Assistant Professor & Head,  
Department of Chemistry,



**P.G. DEPARTMENT OF CHEMISTRY  
LATE B. S. ARTS, PROF. N. G. SCIENCE AND  
A. G. COMMERCE COLLEGE, SAKHARKHERDA  
NAAC Re-accredited Grade 'A' with CGPA- 3.02**

## *Certificate*

This is to certify that the work presented in the dissertation of this project report was carried out by student Vaibhav Sandeep Gawai of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

**Date:** 24/4/2023

**Place:** Sakharkherda

*PRM*

24.4.2023

Supervisor

Dr. P. R. Mahalle

Assistant Professor & Head



**Silica from Rice Hull Ash**

**PROJECT REPORT**

Submitted to  
**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**

For the Partial fulfilment of the Requirements  
For the degree of Master of Science in

**CHEMISTRY**

Of

**M.Sc. Part II Semester IV**  
**Practical VIII - Project Work - Examination S - 2023**

By

**Vishal Dinkar Chikhalkar**

**Under the guidance of**

**Dr. Prashant R. Mahalle**  
**Assistant Professor & Head,**  
**Department of Chemistry,**

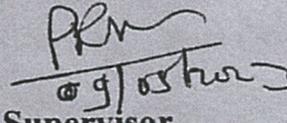


**P.G. DEPARTMENT OF CHEMISTRY**  
**LATE B. S. ARTS, PROF. N. G. SCIENCE AND**  
**A. G. COMMERCE COLLEGE, SAKHARKHERDA**  
**NAAC Re-accredited Grade 'A' with CGPA- 3.02**  
**2022-2023**

## Certificate

This is to certify that the work presented in the dissertation of this project report was carried out by student Vishal Dinkar Chikhalkar of M.Sc. Part-II, semester IV (Chemistry) under my supervision during the academic Session 2022-23

09/05/2023.  
Date: ~~1/1/2023~~  
Place: Sakharkherda

  
Supervisor  
Dr. P. R. Mahalle  
Assistant Professor & Head





# OM FOODS & NATURALS

Jorve Road, Sangamner - 422 608 Dist. A'nagar

Mo. +91 7972698169, 7821838009

Email : omfoodsandnaturals2152@gmail.com

*fssai* Lic No. 21521154001177



## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 10<sup>th</sup> Day of July 2022 (10/07/2022) by and between **Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** (hereinafter referred as first party the institution which expression, unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns for A.Y. 2022-2023.

And

**OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar**, The Second Party, and represented herein by its **Managing Director, Mrs. Sujata S. Mandlik**.

(First Party and Second Party are hereinafter jointly referred to as parties and individually as 'Party' as

### WHEREAS:-

- First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- The Parties intend to co-operate and focus their efforts on cooperation within area of skill based training, education and research.

- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.
- E) **OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar**, the second party is engaged in business and manufacturing, skill development, education and R&D services in the fields of **Science** and related fields.
- F) **OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar**, the second party is promoted by **Mrs. Sujata S. Mandlik** address and background of the company.
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES  
SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS  
FOLLOWS:  
CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the institution and its related wings. The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall cooperate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2  
SCOPE OF THE MoU**

- 2.1 The budding graduates/ post graduate/ Doctorate from the institution could play a key role in technological up- gradation, innovation and competitiveness for the development

of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their skills and knowledge.

- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/research/ training methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.
- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of material science and allied areas.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lectures to the students of the first Party on the technology trends and in house requirements.
- 2.6 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.7 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmes on the terms specified herein.
- 2.8 **There is no financial commitment** on the part of Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana, the First party to take up any programme mentioned in the MoU.

### CLAUSE 3

#### INTELLECTUAL PROPERTY

3.1 Nothing contained in this MoU shall by express grant, implication, Estoppels or otherwise, create in either Party any right, title, interest or license in or to the intellectual property (including but not limited to know-how, inventions, patents, copy rights and designs) of the other party.

### CLAUSE 4

#### VALIDITY

4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period **OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar**. The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner or **OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar**, the Second Party after termination of

this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

## CLAUSE 5 RELATIONSHIP BETWEEN THE PARTIES

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

### First Party

### Second Party

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhli.

### AGREED:

**For Late Bhaskarrao Shingne  
Arts, Prof Narayanrao Gawande  
Science & Ashalata Gawande  
Commerce College,**

**Dr. N. N. Gawande  
Principal  
Authorized Signatory**

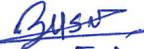
**OM FOODS AND NATURALS, Tal.  
Sangamner, Dist: Ahmednagar**



**Mrs. Sujata S. Mandlik  
Managing Director  
Authorized Signatory  
Managing Director  
Mrs. Sujata S. Mandlik  
(MSc. (Botany))  
Om Foods & Naturals**

Name of the Institution:- LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	Name of the Institute /Industry:- OM FOODS AND NATURALS, Tal. Sangamner, Dist: Ahmednagar
Address:-Sakharkherda, Tq-Sindkhedraja	Address:-Tal: Sangamner, Dist Ahmednagar
Contact Details:-9822364082	Contact Details:-7972698169
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:omfoodsandnaturals@gmail.com">omfoodsandnaturals@gmail.com</a>
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	

Witness 1:-

  
Mr. A. D. Padwal



Witness 2:-

  
D. S. N. Varpe

Witness 3:-

  
Dr. A. B. Churke

Witness 4:-

  
Nitin G. Chaturkar

## Memorandum of Understanding (MoU)

### Between

Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### And

Prathamesh Traders, Buldhana Road, Chikhali

This Memorandum of Understanding is executed on Day, 1<sup>st</sup> July 2022

#### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and (The Industry Partner) **Prathamesh Traders, Buldhana Road, Chikhali** in order to achieve shared objectives and promote mutual interest, benefit and growth.

#### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

#### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics
9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Prathamesh Traders, Buldhana Road ,Chikhali)** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it is not their

intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

### Authority to Bind

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

### AGREED:

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

**For Prathamesh Traders,  
Buldhana Road , Chikhali**

Dr. Nilesh N Gawande

Shri. Anil Jaiwal

Principal

Prathamesh Traders, Buldhana Road , Chikhali

Authorized Signatory

Authorized Signatory

Name of the Institution:-

Name of the Industry:-

Late Bhaskarrao Shingane Arts, Prof. Narayanrao  
Gawande Science And Ashalata Gawande Commerce  
College, Sakharkherda

**Prathamesh Traders, Buldhana Road ,  
Chikhali**

Address:-Lavala Road, Sakharkherda, Tq-Sindkhed  
Raja, Dist-Buldhana -443202

Address:- **Prathamesh Traders, Buldhana  
Road , Chikhali**

Contact Details:-9822364082

Contact Details:- 9689909061

Email:- [lbsac336@sgbau.ac.in](mailto:lbsac336@sgbau.ac.in)

Email:- .....@gmail.com

Web:- [www.lbsangsagcc.org](http://www.lbsangsagcc.org)

Web:- .....

  
Witness 1:-

  
Witness 2:-

## Memorandum of Understanding (MoU)

### Between

Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### And

Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana

This Memorandum of Understanding is executed on Day, 1<sup>st</sup> July 2022

### Background:

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and (The Industry Partner) Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana in order to achieve shared objectives and promote mutual interest, benefit and growth.

### Objective:

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### Areas of Collaboration:

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana)** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The

parties agree that it is not their intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:-**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda



For Shri.Mukulji Wasnik Audhogik  
Sahakri Sanstha ,Chikhli., Dist-  
Buldhana

Dr. Nilesh N.Gawande

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

**Authorized Signatory**

**अध्यक्ष**

**श्री मुकुलजी वासनीक बहुउद्देशिय औद्योगिक**

श्री मुकुलजी वासनीक बहुउद्देशिय औद्योगिक सहकारी संस्था, चिखली, बुलढाना जिल्हा, महाराष्ट्र

**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli., Dist-Buldhana
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli., Dist-Buldhana
Contact Details:-9822364082	Contact Details:-
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsgcc.org">www.lbsangsgcc.org</a>	Web:- .....

**Witness 1:-**

**Witness 2:-**

## Memorandum of Understanding (MoU)

**Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda**

**And**

**Renuka Seed Plants Industries, MIDC Chikhali, 443202**

This Memorandum of Understanding is executed on Day, 1<sup>st</sup> July 2022

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda** and (The Industry Partner) **Renuka Seed Plants Industries, MIDC Chikhali, 443202** in order to achieve shared objectives and promote mutual interest, benefit and growth.

### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics
9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Renuka Seed Plants Industries, MIDC Chikhali,443202 )** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it

is not their intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

### Authority to Bind

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

### AGREED:

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

  
**Renuka Seed Plants Industries,**  
**MIDC Chikhali,443202**

  
Dr. Nilesh N. Gawande

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

**Authorized Signatory**



Shri. Sunil Modekar

Renuka Seeds Industries  
**New Renuka Hybrid Seed**  
**P. Plant B-16, MIDC, Chikhli**  
**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Renuka Seed Plants Industries, MIDC Chikhali,443202</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Renuka Seed Plants Industries, MIDC Chikhali,443202</b>
Contact Details:-9822364082	Contact Details:- 9423372024
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

  
Witness 1:-

  
Witness 2:-

## Memorandum of Understanding (MoU)

**Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and  
Ashalata Gawande Commerce College, Sakharkherda**

**And**

**Rama Industries , MIDC ,Plot No. 27 ,Chikhali,**

This Memorandum of Understanding is executed on **Day, 1<sup>st</sup> July 2022**

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and (The Industry Partner) **Rama Industries , MIDC ,Plot No. 27 ,Chikhali**, in order to achieve shared objectives and promote mutual interest, benefit and growth.

### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Rama Industries , MIDC ,Plot No. 27 ,Chikhali,** ) jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it is not their intention

to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

For Rama Industries , MIDC ,Plot  
No. 27 ,Chikhali,

Dr. Nilesh N. Gawande

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

**Authorized Signatory**



Miss. M.S. Gunikar  
Rama Industries , MIDC ,Chikhali

**Authorized Signatory**

**PROPRIETOR**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Rama Industries , MIDC ,Plot No. 27 ,Chikhali,</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Rama Industries , MIDC ,Plot No. 27 ,Chikhali,</b>
Contact Details:-9822364082	Contact Details:- 9787930991
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

Witness 1:-

Witness 2:-

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 11<sup>th</sup> July 2022 by and between

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** (hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors-in office, administrators and assigns for **academic session 2022-23**.

And

**Smt. Sindhutai Jadhao Arts & Science College Mehkar** The Second Party, and represented here in by its head **Dr. B. R. Lahorkar, Principal** here in referred to as Second Party, company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

First Party and Second Party are here in after jointly referred to as partied and individually as 'Party' as

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based trainng, education and research.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.
- E) **Smt. Sindhutai Jadhao Arts & Science College Mehakar** the second party is engaged in skill development, education and R & D services in the fields of **Arts** related fields.
- F) **Smt. Sindhutai Jadhao Arts & Science College Mehakar**, the second party is promoted by **Dr. B. R. Lahorkar Principal**.

- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES  
SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS  
FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that wills promote and advance their respective operations within the institution and its related wings .The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will faciliate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching /research / training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**

**SCOPE OF THE MoU**

- 2.1 The budding graduates/ post graduate/ Doctorate from the institution could play a key role in technological up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their skills and knowledge.
- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/ research/ training methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party**

**Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhli.

**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

Smt. Sindhutai Jadhao Arts & Science  
College Mehakar

Dr. N. N. Gawande

**Principal**  
Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

Dr. B. R. Lahorkar  
Principal

**Authorized Signatory**  
**Principal**  
Smt. Sindhutai Jadhao Arts  
& Science Mahavidyalaya  
Mehkar

<b>Name of the Institution:-</b> Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute /Industry:-</b> smt. Sindhutai Jadhao Arts & Science College Mehakar
Address:-Sakharkherda, Tq-Sindkhedraja	Address:-At Post Mehakar Dist Buldhana
Contact Details:-9822364082	Contact Details:- 9881361469
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:smtsindhutaijadhao@gmail.com">smtsindhutaijadhao@gmail.com</a>
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- <a href="http://www.ssjasm.in">www.ssjasm.in</a>

Witness 1:-

Witness 2:-

Witness 3:-

Witness 4:-

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is signed on 10<sup>th</sup> July 2022.

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** ( here in after referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns 2022-2023).

And

**Shri Vyankatesh Arts, Commerce & Science College, Deulgaon Raja-443 204, Dist. Buldhana (M.S) (Shri Balaji Sansthan Deulgaon Raja's)**, The Second Party, and represented herein by its head **Dr. D. V. Gore, Principal** (herein referred to as Second Party, company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns 2022-2023).

(First Party and Second Party are herein after jointly referred to as parties and individually as 'Party' as

### WHEREAS:-

A) First Party is a Higher Educational Institution named:-

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**

B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.

C) The Parties intend to co-operate and focus their efforts on cooperation within area of skill based training, education and research.

D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

E) **Shri Vyankatesh Arts, Commerce & Science College, Deulgaon Raja-443 204, Dist. Buldhana (M.S)** (Name of the Educational Institute, the second party is engaged in skill development, education and R& D services in the fields of **Science, Commerce & Arts** and related fields.



**NOW THEREFORE IN CONSIDERATION OF THE MUTUAL PROMISES  
SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS  
FOLLOWS:**

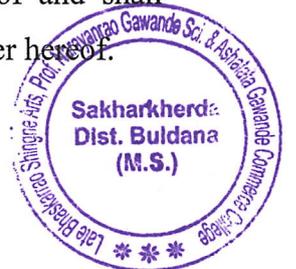
**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the institution and its related wings. The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**

**SCOPE OF THE MoU**

- 2.1 The budding graduates/ post graduate/ Doctorate from the institution could play a key role in technological up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their skills and knowledge.
- 2.2 **Curriculum Design:** Both parties will give valuable inputs to each other in teaching/research/ training methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.
- 2.3 **Research Collaboration:** The MoU could specify the scope of joint research projects, including topics of interest, methodologies, sharing of data and resources, and responsibilities of each institute's researchers.



- 2.4 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of Zoology and allied areas.
- 2.5 **Skill Development Programs:** Both the parties are agreed to train the students on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.6 **Guest Lectures:** Both the parties are agreed to extend the necessary support to deliver guest lecturers to the students on the technology trends and in house requirements.
- 2.7 **Student Exchange Programs:** The MoU might include provisions for student exchange programs, where students from one institute can spend a certain period of time at the other institute to gain exposure to different research methodologies and educational practices.
- 2.8 **Faculty Exchange:** The MoU could facilitate the exchange of faculty members between the two institutes, allowing them to conduct seminars, and collaborate on research projects.
- 2.9 Both Parties to obtain all internal approvals, consents, permissions and licenses of what so ever nature required for offering the programmes on the terms specified herein.
- 2.10 **There is no financial commitment** from the sides of both the parties to take up any programme mentioned in the MoU.

### CLAUSE 3

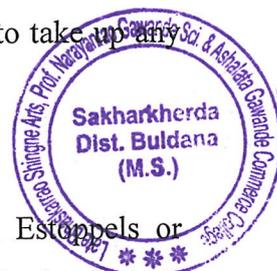
#### INTELLECTUAL PROPERTY

- 3.1 Nothing contained in this MoU shall by express grant , implication , Estoppel or otherwise ,create in either Party any right ,title , interest or license in or to the intellectual property ( including but not limited to know-how ,inventions, patents, copy rights and designs) of the other party.

### CLAUSE 4

#### VALIDITY

- 4.1 This agreement will be valid until it is expressly terminated by either party on mutually agreed terms, during which period **Shri Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**. Both Parties as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner or **Shri Vyankatesh Arts, Commerce & Science College, Deulgaon Raja-443 204, Dist. Buldhana (M.S)**, the Second Party after



termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

**CLAUSE 5**  
**RELATIONSHIP BETWEEN THE PARTIES**

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the sub-district Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the court of Chikhli.



**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

Shri Vyankatesh Arts, Commerce &  
Science College,



Dr. N. N. Gawande

**PRINCIPAL**

Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana



Dr. D. V. Gore

**PRINCIPAL**

Shri Vyankatesh Arts, Commerce &  
Science College, Deulgaon Raja  
Dist. Buldana, Pin-443204

**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute /Industry:-</b> Shri Vyankatesh Arts, Commerce & Science College
<b>Address:-</b> Sakharkherda, Tq-Sindkhedraja, Dist-Buldhana, 443202 (M.S.)	<b>Address:-</b> Deulgaon Raja, -443 204, Dist. Buldhana (M.S.)
<b>Contact Details:-</b> 9822364082	<b>Contact Details:-</b> 9175710375
<b>Email:-</b> <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	<b>Email:-</b> <a href="mailto:svcollege3@rediffmail.com">svcollege3@rediffmail.com</a>
<b>Web:-</b> <a href="http://www.lbsangsgacc.org">www.lbsangsgacc.org</a>	<b>Web:-</b> <a href="http://www.svcdraja.org/">http://www.svcdraja.org/</a>

Witness 1:-

Dr. R. P. Zanke

Witness 2:-

Dr. V. R. Panse

Witness 3:-

Dr. U. B. Deshmukh

Witness 4:-

Dr. E. B. Bhalerao

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding is entered into on 11<sup>th</sup> July 2022 by and between

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented here in by its **Dr. Nilesh N. Gawande, Principal** here in after referred as first party the institution which expression, unless excluded by or repugnant to the subject or context shall include its successors in office, administrators and assigns for **academic year 2022-23**.

And

**Rajmata Jijai Mahila Urban Co op. Credit Society Ltd.** Raut wadi, Chikhali Dist Buldhana, The Second Party, and represented here in by its President **Dr. Sau. M. N. Gawande, (Chairman)** Name of Competent Authority/ Representative here in referred to as Second Party, company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

First Party and Second Party are here in after jointly referred to as parties and individually as 'Party' as

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, Banking education.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.
- E) **Rajmata Jijai Mahila Urban Co op. Credit Society Ltd.** the second party is engaged in business, skill development, Banking education in the fields of **Commerce** and related fields.
- F) **Rajmata Jijai Mahila Urban Co op. Credit Society Ltd.** the second party is promoted by **Dr. Sau. M. N. Gawande, Chairman**.

- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES  
SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS  
FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the institution and its related wings. The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/Workshop, Bank training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter here of and shall supersede any prior understanding between the parties on the subject matter here of.

**CLAUSE 2**

**SCOPE OF THE MoU**

- 2.1 The budding graduates/ post graduate/ Doctorate from the institution could play a key role in technological up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their skills and knowledge.
- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in financial literacy, bank training programme methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.

- 2.3 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.4 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lectures to the students of the first Party on the banking technology trends.
- 2.5 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.6 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatever nature required for offering the programmes on the terms specified here in.
- 2.7 **There is no financial commitment** on the part of Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana, the First party to take up any programme mentioned in the MoU.

### **CLAUSE 3**

#### **INTELLECTUAL PROPERTY**

3.1 Nothing contained in this MoU shall by express grant, implication, Estoppels or otherwise, create in either Party any right, title, interest or license in or to the intellectual property (including but not limited to know-how, inventions, patents, copy rights and designs) of the other party.

### **CLAUSE 4**

#### **VALIDITY**

4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period **Rajmata Jijai Mahila Urban Co op. Credit Society Ltd.** The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner or **Rajmata Jijai Mahila Urban Co op. Credit Society Ltd.**, the Second Party after termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

**CLAUSE 5**  
**RELATIONSHIP BETWEEN THE PARTIES**

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party**

**Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhali.

**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

Rajmata Jijai Mahila Urban Co op.  
Credit Society Ltd. Chikhali

  
Dr.N.N.Gawande  
Principal

**Authorized Signatory**  
**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist Buldana

  
Dr. Sau M. N. Gawande  
Rajmata Jijai Mahila Urban Co Op  
Credit Society Ltd. Chikhali R No 460,  
Chairman

**Authorized Signatory**

<b>Name of the Institution:-</b> LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute /Industry:-</b> Rajmata Jijai Mahila Urban Co op. Credit Society Ltd. Chikhali
Address:-Sakharkherda, Tq-Sindkhedraja	Address:-Raut Wadi, Chikhali. Dist. Buldhana
Contact Details:-9822364082	Contact Details:-
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:-
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:-

Witness 1:- 

Witness 2:-   
(S.S. Gawande)

Witness 3:- 

Witness 4:- 

# **Memorandum of Understanding (MoU)**

## **Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda**

## **And**

**Prathamesh Traders, Buldhana Road, Chikhali**

This Memorandum of Understanding is executed on **Day, 1<sup>st</sup> July 2022**

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and (The Industry Partner) **Prathamesh Traders, Buldhana Road, Chikhali** in order to achieve shared objectives and promote mutual interest, benefit and growth.

### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Prathamesh Traders, Buldhana Road ,Chikhali)** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it is not their

intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

**For Prathamesh Traders,  
Buldhana Road , Chikhali**

Dr. Nilesh N. Gawande  
**PRINCIPAL**



**Shri. Anil Jaiwal**

Prathamesh Traders, Buldhana Road, Chikhali

**Authorized Signatory**

**Name of the Institution:-**

Late Bhaskarrao Shingane Arts, Prof. Narayanrao  
Gawande Science And Ashalata Gawande Commerce  
College, Sakharkherda

**Name of the Industry:-**

**Prathamesh Traders, Buldhana Road ,  
Chikhali**

Address:-Lavala Road, Sakharkherda, Tq-Sindkhed  
Raja, Dist-Buldhana -443202

Address:- **Prathamesh Traders, Buldhana  
Road , Chikhali**

Contact Details:-9822364082

Contact Details:- 9689909061

Email:- [lbsac336@sgbau.ac.in](mailto:lbsac336@sgbau.ac.in)

Email:- .....@gmail.com

Web:- [www.lbsangsagcc.org](http://www.lbsangsagcc.org)

Web:- .....

**Witness 1:-**

**Witness 2:-**

# **Memorandum of Understanding (MoU)**

## **Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda**

## **And**

**Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana**

This Memorandum of Understanding is executed on **Day, 1<sup>st</sup> July 2022**

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda** and (The Industry Partner) **Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana** in order to achieve shared objectives and promote mutual interest, benefit and growth.

### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli,, Dist-Buldhana)** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The

parties agree that it is not their intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda



For Shri.Mukulji Wasnik Audhogik  
Sahakri Sanstha ,Chikhli., Dist-  
Buldhana

Dr. Nilesh N. Gawande

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

**Authorized Signatory**

श्री. मुकुलजी वासनिक बहु उद्देश्य औद्योगिक  
Sahakri Sanstha ,Chikhli., Dist-  
Buldhana

**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli., Dist-Buldhana
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- Shri.Mukulji Wasnik Audhogik Sahakri Sanstha ,Chikhli., Dist-Buldhana
Contact Details:-9822364082	Contact Details:-
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

**Witness 1:-**

**Witness 2:-**

# **Memorandum of Understanding (MoU)**

**Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and  
Ashalata Gawande Commerce College, Sakharkherda**

**And**

**Rama Industries , MIDC ,Plot No. 27 ,Chikhali,**

This Memorandum of Understanding is executed on **Day, 1<sup>st</sup> July 2022**

## **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and (The Industry Partner) **Rama Industries , MIDC ,Plot No. 27 ,Chikhali,** in order to achieve shared objectives and promote mutual interest, benefit and growth.

## **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

## **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

For Rama Industries , MIDC ,Plot  
No. 27 ,Chikhali,

Dr. Nilesh N. Gawande

PRINCIPAL

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S Raja Dist Buldana

Authorized Signatory



Miss. M.S. Gunikar  
M/S RAMA INDUSTRIES  
Rama Industries, MIDC, Chikhali  
MIDC CHIKHALI  
Authorized Signatory  
PROPRIETOR

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Rama Industries , MIDC ,Plot No. 27 ,Chikhali,</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Rama Industries , MIDC ,Plot No. 27 ,Chikhali,</b>
Contact Details:-9822364082	Contact Details:- 9787930991
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

Witness 1:-

Witness 2:-

# **Memorandum of Understanding (MoU)**

**Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda**

**And**

**Renuka Seed Plants Industries, MIDC Chikhali, 443202**

This Memorandum of Understanding is executed on Day, 1<sup>st</sup> July 2022

## **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda** and (The Industry Partner) **Renuka Seed Plants Industries, MIDC Chikhali, 443202** in order to achieve shared objectives and promote mutual interest, benefit and growth.

## **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

## **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company (Renuka Seed Plants Industries, MIDC Chikhali,443202 )** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it

is not their intention to share any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda



**Renuka Seed Plants Industries,  
MIDC Chikhali,443202**

Dr. Nilesh N.Gawande



**Principal**

**Authorized Signatory**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tal. & Dist. Buldhana




Shri. Sunil Modekar

Renuka Seeds Industries  
**New Renuka Hybrid Seed**  
**P.Plant B-16,MIDC, Chikhli**  
**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Renuka Seed Plants Industries, MIDC Chikhali,443202</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Renuka Seed Plants Industries, MIDC Chikhali,443202</b>
Contact Details:-9822364082	Contact Details:- 9423372024
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

Witness 1:-

Witness 2:-

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 11<sup>th</sup> Day of July 2022(11/07/2022) by and between

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** (hereinafter referred as first party) the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors -in office, administrators and assigns.

And

**Dr. Babasaheb Ambedkar Mahavidyalaya Dist. Amravati Maharashtra**. The Second Party, and represented herein by its head **Dr. Sunilkumar Chavan, Principal** herein referred to as Second Party , which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

First Party and Second Party are hereinafter jointly referred to as parties and individually as Party's

### WHEREAS:-

A) First Party is a Higher Educational Institution named:-

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**

B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.

C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, education and research.

D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

- E) **Dr. Babasaheb Ambedkar Mahavidyalaya Dist. Amravati Maharashtra.** (The second party) is engaged in skill development, education, Meditation and services in the fields of **Arts and Commerce** and related fields.
- F) **Dr. Babasaheb Ambedkar Mahavidyalaya Dist. Amravati Maharashtra.** (The second party) is promoted by **Principal Dr. Sunilkumar Chavan**
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the institution and its related wings .The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**  
**SCOPE OF THE MoU**

- 2.1 The budding graduates from the institution could play a key role in up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their **Pali & Prakrit** Language skills and knowledge.
- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/research/Meditation training methodology and suitably customize the curriculum.
- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of **Pali & Prakrit** writing and Speaking.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lecturers to the students of the first Party on the issues of Language and Literature.
- 2.6 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.7 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmers on language and literature.
- 2.8 **There is no financial commitment** on the part of **Late Bhaskarrao Shingne Arts, Prof Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**. The First party to take up any programs mentioned in the MoU.

**CLAUSE 3**

**INTELLECTUAL PROPERTY**

- 3.1 Nothing contained in this MoU shall by express grant , implication , Estoppels or otherwise create in either Party any right ,title , interest or license in or to the intellectual property of the other party.

## CLAUSE 4

### VALIDITY

4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period **Dr. Babasaheb Ambedkar Mahavidyalaya Dist. Amravati Maharashtra**. The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner **Dr. Babasaheb Ambedkar Mahavidyalaya Dist. Amravati Maharashtra**, the Second Party after termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

## CLAUSE 5

### RELATIONSHIP BETWEEN THE PARTIES

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party****Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhli.

**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

Dr. Babasaheb Ambedkar  
Mahavidyalaya Dist. Amravati  
Maharashtra



Dr. N. N. Gawande

Principal

Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S Raja Dist Buldana

Dr. Sunilkumar Chavan  
Principal

Authorized Signatory

11C Principal  
Dr. Babasaheb Ambedkar  
Mahavidyalaya, Amravati

Name of the Institution:- Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	Name of the Institute : Dr. Babasaheb Ambedkar Mahavidyalaya Amravati
Address:- Sakharkherda, Tq-Sindkhedraja 443202	Address: - Shyam Nagar, Dist. Amravati. 444606
Contact Details:- 9822364082	Contact Details:- Mob. 9168819131
Email:- lbsac336@sgbau.ac.in	Email:- drbamv.amt72@gmail.com
Web:- www.lbsangsgcc.org	Web:- www.drbamvamt.org

Witness 1:-



Witness 3:-



Witness 2:-



Witness 4:-



## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 11<sup>th</sup> Day of July 2022(11/07/2022) by and between

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda,Dist-Buldana,** The first party represented herein by its **Dr.Nilesh N.Gawande, Principal** ( hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns.

And

**Raje Chatrapati Kala Mahavidyalaya Dhamangaon Badhe Dist.Buldana Maharashtra.** The Second Party, and represented herein by its head **Dr.A.K.Meshram,Principal** (herein referred to as Second Party , company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

(First Party and Second Party are hereinafter jointly referred to as partied and individually as 'Party's

### WHEREAS:-

A) First Party is a Higher Educational Institution named:-

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**

B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.

C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, education and research.

D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

- E) **Raje Chatrapati Kala Mahavidyalaya Dhamangaon Badhe.** (The second party) is engaged in skill development, education and R& D services in the fields of **Arts** related fields.
- F) **Raje Chatrapati Kala Mahavidyalaya Dhamangaon Badhe.** ( the second party) is promoted by **Principal Dr.A.K.Meshram**
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the institution and its related wings .The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**  
**SCOPE OF THE MoU**

- 2.1 The budding graduates from the institution could play a key role in up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their Hindi Language skills and knowledge.
- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/research/ training methodology and suitably customize the curriculum.
- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of Hindi Writing and Speaking.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lecturers to the students of the first Party on the issues of Language and Literature.
- 2.6 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.7 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmers on language and literature.
- 2.8 **There is no financial commitment** on the part of Late Bhaskarrao Shingne Arts, Prof .Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana, the First party to take up any programme mentioned in the MoU.

**CLAUSE 3**  
**INTELLECTUAL PROPERTY**

- 3.1 Nothing contained in this MoU shall by express grant , implication , Estoppels or otherwise ,create in either Party any right ,title , interest or license in or to the intellectual property of the other party.

## CLAUSE 4

### VALIDITY

4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period **Raje Chatrapati Kala Mahavidyalaya, Dhamangaon Badhe**. The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner **Raje Chatrapati Kala Mahavidyalaya Dhamangaon Badhe**. the Second Party after termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

## CLAUSE 5

### RELATIONSHIP BETWEEN THE PARTIES

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party****Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Buldhana.

**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldhana

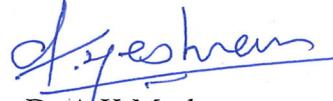


Dr.N.N.Gawande

**Principal**

Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda Tq. S. Raja Dist. Buldhana

Raje Chatrapati Kala Mahavidyalaya,  
Dhamangaon Badhe



Dr.A.K.Meshram

Principal

**Authorized Signatory****Principal**

**Raje Chhatrapati Kala Mahavidyalaya**  
**Dhamangaon Badhe Tq.Motala Dist.Buldana**

<b>Name of the Institution:-</b> LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute :</b> Raje Chatrapati Kala Mahavidyalaya, Dhamangaon Badhe -
Address:-Sakharkherda, Tq-Sindkhedraja	Address:- Dhamangaon Badhe, Dist. Buldhana
Contact Details:-9822364082	Contact Details:- <b>Mob.</b> 9923219394
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:gajananwankahade42@gmail.com">gajananwankahade42@gmail.com</a>
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- <a href="http://www.rckmv.com">www.rckmv.com</a>

Witness 1:- 

(Dr. R.V. Popalghat)

Witness 3:-

  
Dr. G.G. Wankhede

Witness 2:-

  
Dr. S.S. Gawande

Witness 4:-

  
Asst. Prof. D.H. Lale

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 11<sup>th</sup> July 2022 by and between

**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** (hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors-in office, administrators and assigns for **academic session 2022-23**.

And

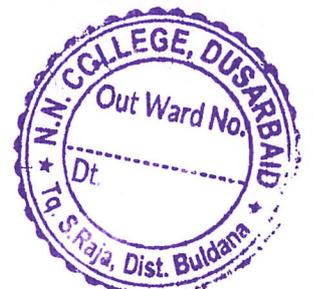
**Narayanrao Nagre Arts & Science College, Dusarbid** The Second Party, and represented here in by its head **Dr. Vijay Nagare, Principal** here in referred to as Second Party, company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

First Party and Second Party are here in after jointly referred to as partied and individually as 'Party' as

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based trainng, education and research.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.
- E) **Narayanrao Nagre Arts & Science College, Dusarbid** the second party is engaged in skill development, education and R & D services in the fields of **Arts** related fields.
- F) **Narayanrao Nagre Arts & Science College, Dusarbid** the second party is promoted

by **Dr. Vijay Nagare, Principal**.





- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of History & social science.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lectures to the students of the first Party on Historical concepts.
- 2.6 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.7 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmes on the terms specified herein.
- 2.8 **There is no financial commitment** on the part of Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana, the First party to take up any programme mentioned in the MoU.

**CLAUSE 3**  
**INTELLECTUAL PROPERTY**

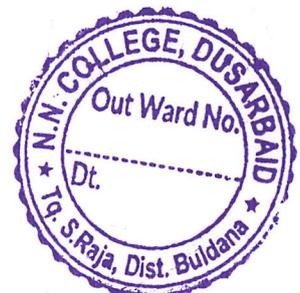
3.1 Nothing contained in this MoU shall by express grant, implication, Estoppels or otherwise, create in either Party any right ,title , interest or license in or to the intellectual property of the other party.

**CLAUSE 4**  
**VALIDITY**

4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period. **Narayanrao Nagre Arts & Science College, Dusarbid** The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner or **Narayanrao Nagre Arts & Science College, Dusarbid** the Second Party after termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

**CLAUSE 5**  
**RELATIONSHIP BETWEEN THE PARTIES**



5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contractors and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party**

**Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhli.

**AGREED:**

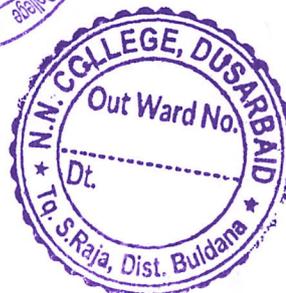
For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

Narayanrao Nagre Arts & Science  
College, Dusarbid

Dr. N. N. Gawande

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana



Dr. Vijay Nagre

**Principal**

Narayanrao Nagre Arts, Com. & Sci. Colleg,  
Dusarbid, Tq. S. Raja, Dist. Buldhana

<b>Name of the Institution:-</b> Late Bhaskarrao Shingne Arts, Prof. Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute /Industry:-</b> Narayanrao Nagare Arts & Science College, Dusarbid
Address:-Sakharkherda, Tq-Sindkhedraja	Address:-At Post Dusarbid Dist Buldhana
Contact Details:-9822364082	Contact Details:- 982311684
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:vhnduserbid@gmail.com">vhnduserbid@gmail.com</a>
Web:- <a href="http://www.lbsangsgcc.org">www.lbsangsgcc.org</a>	Web:- <a href="http://www.nncollegedusarbid.com/">www.nncollegedusarbid.com/</a>

Witness 1:-

*Gawai*  
(S.R.Gawai)

Witness 2:-

*SH*  
(P.S.1412)

Witness 3:-

*D. S. Deshmane*  
(DR. D.S. Deshmane)

Witness 4:-

*prof. S.R. High*



## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 10<sup>th</sup> Day of July 2022(10/07/2022) by and between

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda,Dist-Buldana**, The first party represented herein by its **Dr.Nilesh N.Gawande,Principal** ( hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns.)

And

**Tatyasahab Mahajan Arts and Commerce College Chikhli. Dist. Buldana Maharashtra.** The Second Party, and represented herein by its head **Dr.S.D.Gavhane , Principal** (herein referred to as Second Party , company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

(First Party and Second Party are hereinafter jointly referred to as partied and individually as 'Party's

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, education and research.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

- E) **Tatyasahab Mahajan Arts and Commerce College Chikhli.** ( The second party is engaged in business and manufacturing, skill development, education and R& D services in the fields of **Arts and Commerce** and related fields.)
- F) **Tatyasahab Mahajan Arts and Commerce College Chikhli.** ( the second party is promoted by **Dr.S.D.Gavhane Principal .** )
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that wills promote and advance their respective operations within the institution and its related wings .The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**

**SCOPE OF THE MoU**

- 2.1 The budding graduates from the institution could play a key role in up- gradation, innovation and competitiveness for the development of both the institute. Both parties

believe that close co-operation between the two would be of major benefits to the students community to enhance their Marathi Language skills and knowledge.

- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/research/ training methodology and suitably customize the curriculum in Marathi Language .
- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of Marathi Writing and Speaking.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lectures to the students of the first Party on the issues of Marathi Language and Literature.
- 2.6 **Faculty Development Programs:** Second Party to train the faculty of First Party for imparting training as per the faculty development requirement if available.
- 2.7 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmes on language and literature.
- 2.8 **There is no financial commitment** on the part of Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana, the First party to take up any programme mentioned in the MoU.

### CLAUSE 3

#### INTELLECTUAL PROPERTY

- 3.1 Nothing contained in this MoU shall by express grant , implication , Estoppels or otherwise ,create in either Party any right ,title , interest or license in or to the intellectual property of the other party.

### CLAUSE 4

#### VALIDITY

- 4.1 This agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period **Tatyasahab Mahajan Arts and Commerce College Chikhli.**The Second Party as the case may be, will take effective steps for implementation of this MoU. Any act on the part of MoU partner **Tatyasahab Mahajan Arts and Commerce**

**College Chikhli.**, the Second Party after termination of this agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

4.2 Both Parties may terminate this MoU upon 30 Calendar days notice in writing. In the event of termination, both parties have to discharge their obligations.

**CLAUSE 5**  
**RELATIONSHIP BETWEEN THE PARTIES**

5.1 It is expressly agreed that First Party and Second Party are acting under this MoU as independent contract or sandthe relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other Party name in any way to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other party. Neither Party shall have nor represent itself as having any authority under the terms of the MoU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other party.

**First Party**

**Second Party**

Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the arbitration act, 1996. The place of the arbitration shall be at the District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian law with exclusive jurisdiction in the courts of Chikhli.

**AGREED:**

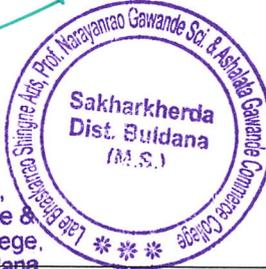
For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

**Tatyasahab Mahajan Arts and  
Commerce College Chikhli.**

Dr.N.N.Gawande

**PRINCIPAL**

Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raig, Dist. Buldana



*Paulh.*

Dr.S.D.Gavhane

**PRINCIPAL**

S.P.M.T.M.Arts & Commerce College,  
CHIKHLI-443201(Dist.Buldana)  
Principal  
Authorized Signatory

<b>Name of the Institution:-</b> LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Institute :</b> Tatyasahab Mahajan Arts and Commerce College Chikhli. -
<b>Address:-</b> Sakharkherda, Tq-Sindkhedraja	<b>Address:-</b> Chikhli, Dist. Buldana
<b>Contact Details:-</b> 9822364082	<b>ContactDetails:-Landline</b> (0264242075, <b>Mob.</b> 9850314885
<b>Email:-</b> <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	<b>Email:-</b> <a href="mailto:spmtmchikhli@gmail.com">spmtmchikhli@gmail.com</a>
<b>Web:-</b> <a href="http://www.lbsangsgacc.org">www.lbsangsgacc.org</a>	<b>Web:-</b> <a href="http://www.nhcb.in/">www.nhcb.in/</a>

Witness 1:-

*[Signature]*  
(DR. P.V. Gawar)

Witness 2:-

*[Signature]*  
(Dr.N.K. Gaikwad)

Witness 3:-

*[Signature]*  
(S.R. Gawai)

Witness 4:-

*[Signature]*  
(Dr. S.S. Gawai)

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 10<sup>th</sup> Day of July 2022(10/07/2022) by and between

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, The first party represented herein by its **Dr.N.N.Gawande, Principal** (hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns 2022-2023.

And

**M.E.S. Arts and Commerce College Mehkar. Dist. Buldana**. The Second Party, and represented herein by its head **Dr.G.N.Parihar, Principal** herein referred to as Second Party, company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

(First Party and Second Party are hereinafter jointly referred to as partied and individually as 'Party's)

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, education and research.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

- E) **M.E.S. Arts and Commerce College Mehkar.** (The second party is engaged in business and manufacturing, skill development, education and R& D services in the fields of **Arts and Commerce** and related fields.)
- F) **M.E.S. Arts and Commerce College Mehkar.** (The second party is promoted **Principal Dr.G.N.Parihar**)
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

**CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that wills promote and advance their respective operations within the institution and its related wings. The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

**CLAUSE 2**  
**SCOPE OF THE MoU**

- 2.1 The budding graduates from the institution could play a key role in up- gradation, innovation and competitiveness for the development of both the institute. Both parties believe that close co-operation between the two would be of major benefits to the students community to enhance their Library and Information Science skills and knowledge.
- 2.2 **Curriculum Design:** Second party will give valuable inputs to the first party in teaching/research/ training methodology and suitably customize the curriculum in Library and Information Science.
- 2.3 **Research and Development:** - Both Parties have agreed to carry out the joint research activities in the fields of Library and Information Science.
- 2.4 **Skill Development Programs:** Second Party to train the students of first party on the emerging technologies in order to bridge the skill gap and make them ready for their future prospectus.
- 2.5 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lecture to the students of the first Party on the issues of Library and Information Science.
- 2.6 Both Parties to obtain all internal approvals, consents, permissions and licenses of whatsoever nature required for offering the programmes on language and literature.
- 2.7 **There is no financial commitment** on the part of **Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**, the First party to take up any programme mentioned in the MoU.

**CLAUSE 3**  
**INTELLECTUAL PROPERTY**

- 3.1 Nothing contained in this MoU shall by express grant, implication, Estoppels or otherwise, create in either Party any right, title, interest or license in or to the intellectual property of the other party.

**AGREED:**

**For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science  
& Ashalata Gawande Commerce  
College, Sakharkherda,  
Dist-Buldana**

**M.E.S. Arts and Commerce College  
Mehkar. Dist-Buldana**

Dr.N.N.Gawande

Principal  
**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda. Tq. S Raja Dist Buldana

Dr.G.N.Parihar

Principal

**M.E.S.Arts & Comn.College  
Mehkar**

Name of the Institution:- LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	Name of the Institute : M.E.S. Arts and Commerce College Mehkar -
Address:-Sakharkherda, Tq-Sindkhedraja	Address:- Mehkar, Dist. Buldana
Contact Details:-9822364082	Contact Details:- <b>Landline</b> (07286299321)
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:principal@mesacollege.org">principal@mesacollege.org</a>
Web:- <a href="http://www.lbsangsgacc.org">www.lbsangsgacc.org</a>	Web:- <a href="https://www.mesacc.ac.in">https://www.mesacc.ac.in</a>

Witness 1:-

Witness 2:-

Witness 3:-

Witness 4:-

## MEMORANDUM OF UNDERSTANDING (MOU)

This Memorandum of Understanding (hereafter called as the MOU) is entered into on this the 10<sup>th</sup> Day of July 2022(10/07/2022) by and between

**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda,Dist-Buldana,** The first party represented herein by its **Dr. Nilesh N. Gawande, Principal** ( hereinafter referred as first party the institution which expression ,unless excluded by or repugnant to the subject or context shall include its successors –in office, administrators and assigns.)

And

**Tatyasahab Mahajan Arts and Commerce College Chikhli. Dist. Buldana Maharashtra.** The Second Party, and represented herein by its head **Dr.S.D.Gavhane , Principal** (herein referred to as Second Party , company which expression unless excluded by or repugnant to the subject or context shall include its successors-in office, administrator and assigns.

(First Party and Second Party are hereinafter jointly referred to as partied and individually as 'Party's

### WHEREAS:-

- A) First Party is a Higher Educational Institution named:-  
**Late Bhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda, Dist-Buldana**
- B) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources and provide each of them with enhanced opportunities.
- C) The Parties intent to co-operate and focus their efforts on cooperation within area of skill based training, education and research.
- D) Both parties being legal entities in themselves desire to sign this MoU for advancing their mutual interests.

- E) **Tatyasahab Mahajan Arts and Commerce College Chikhli.** ( The second party is engaged in business and manufacturing, skill development, education and R& D services in the fields of **Arts and Commerce** and related fields.)
- F) **Tatyasahab Mahajan Arts and Commerce College Chikhli.** ( the second party is promoted by **Dr.S.D.Gavhane Principal** .)
- G) Give related information, its branches and dimensional information about the Educational Institute concerned with whom the MoU is sworn.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

#### **CLAUSE 1**

- 1.1 Both parties are united by common interest and objectives and they shall establish channels of communication and co-operation that wills promote and advance their respective operations within the institution and its related wings .The party's shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.
- 1.2 The first party and second party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty of first party providing significant inputs to them in developing suitable teaching/research/ training systems.
- 1.3 The general terms of co-operation shall be governed by this MoU. The parties shall co-operate with each other and shall, as promptly as is reasonably practical enter into all relevant agreements, deeds and documents as may be required to give effect to the actions contemplated in terms of the MoU. The term of definitive documents shall be mutually decided between the parties. Along with the Definitive documents this MoU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the parties on the subject matter hereof.

#### **CLAUSE 2**

##### **SCOPE OF THE MoU**

- 2.1 The budding graduates from the institution could play a key role in up- gradation, innovation and competitiveness for the development of both the institute. Both parties

**AGREED:**

For Late Bhaskarrao Shingne Arts,  
Prof Narayanrao Gawande Science &  
Ashalata Gawande Commerce  
College, Sakharkherda, Dist-Buldana

**Tatyasahab Mahajan Arts and  
Commerce College Chikhli.**

Dr.N.N.Gawande

**PRINCIPAL**

Late Bhaskarrao Shingne Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Rava Dist. Buldana



Dr.S.D.Gavhane

**PRINCIPAL**

S.P.M.T.M.Arts & Commerce College,  
CHIKHLI-443201(Dist Buldana)

Authorized Signatory

Name of the Institution:- LateBhaskarrao Shingne Arts, Prof.Narayanrao Gawande Science & Ashalata Gawande Commerce College, Sakharkherda	Name of the Institute : Tatyasahab Mahajan Arts and Commerce College Chikhli. -
Address:-Sakharkherda, Tq-Sindkhedraja	Address:- Chikhli, Dist. Buldana
Contact Details:-9822364082	ContactDetails:- <b>Landline</b> (0264242075, <b>Mob.</b> 9850314885
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- <a href="mailto:spmtmchikhli@gmail.com">spmtmchikhli@gmail.com</a>
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- <a href="http://www.nhcb.in/">www.nhcb.in/</a>

Witness 1:-

(Dr. K.A. Thakar)

Witness 2:-

( Dr. S.G. Pant)

Witness 3:-

(S.R. Gawande)

Witness 4:-

(P. S. Shimbre)

## Memorandum of Understanding (MoU)

### Between

Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

And

Parth Textiles ,MIDC Chikhali

This Memorandum of Understanding is executed on Day, 1<sup>st</sup> July 2022

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda** and (The Industry Partner) **Path Textiles ,MIDC Chikhali** in order to achieve shared objectives and promote mutual interest, benefit and growth.

### **Objective:**

The primary objective of this collaboration is to foster a meaningful partnership that leverages the strengths of both parties to promote educational, research, and industrial initiatives.

### **Areas of Collaboration:**

1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

8. Inviting mentors/industry experts as a guest speaker for important social events and webinars on various topics

9. Any other area which may be mutually beneficial to both the organizations

### **Terms and Condition**

This MoU shall be effective from [1<sup>st</sup> July 2022] and shall remain in effect for [Five Year ] unless terminated earlier by mutual agreement or for any other valid reason.

Cost to all such Activities, Trainings, and Industrial Lectures & Site visits to be borne by Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda

### **Intellectual Property:**

Any intellectual property developed during the collaboration shall be governed by a separate agreement mutually agreed upon by both parties.

### **Confidentiality:**

Both parties shall maintain the confidentiality of any proprietary information shared during the collaboration.

### **Termination:**

Either party can terminate this MoU with written notice to the other party, indicating the reasons for termination.

### **Governing Law:**

This MoU shall be governed by and construed in accordance with the laws of jurisdiction.

### **Relationship**

This MOU relates solely to the intention of the parties, wherein **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda and Name of the Company ( Parth Textiles ,MIDC Chikhali )** jointly work together and shall not extend to any other activity or create a partnership between the Parties hereto and under any law of any country. The parties agree that it is not their intention to share

any loss or profit between them in their respective fields, except to the extent expressly provided herein.

### Authority to Bind

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

### AGREED:

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

For Parth Textiles ,MIDC  
Chikhali

  
**Dr. Nilesh N. Gawande**

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda, Tq. S. Raja Dist. Buldana

**Authorized Signatory**



  
**Shri. Rajesh Ingle**

**Parth Textiles ,MIDC Chikhali**

**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Parth Textiles ,MIDC Chikhali</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Parth Textiles ,MIDC Chikhali,</b> <b>443201</b>
Contact Details:-9822364082	Contact Details:- 9850877030
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

  
Witness 1:-

  
Witness 2:-

# **Memorandum of Understanding (MoU)**

## **Between**

**Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda**

**And**

**Parth Textiles ,MIDC Chikhali**

This Memorandum of Understanding is executed on **Day, 1<sup>st</sup> July 2022**

### **Background:**

This Memorandum of Understanding (MoU) outlines the framework for collaboration between (College) **Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda** and (The Industry Partner) **Parth Textiles ,MIDC Chikhali** in order to achieve shared objectives and promote mutual interest, benefit and growth.

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1. Enhance entrepreneurial mindsets among the students
2. Foster the research collaborations between the two parties
2. Organize various workshops on entrepreneurship development
3. Conduct practical trainings on entrepreneurship development
4. Generate self-employment opportunities
5. Assist the students in establishing various start-ups
6. Arrange the placement of trained students
7. Conducting exchange programs for students, faculty members as well as the employees of the industry

any loss or profit between them in their respective fields, except to the extent expressly provided herein.

**Authority to Bind**

No party shall act on behalf of the other party to contractually bind the other Party under the terms of this MOU having first obtained the other Party's written agreement.

**This MOU is valid for the year of five year from the date of execution**

**AGREED:**

For Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science  
And Ashalata Gawande Commerce  
College, Sakharkherda

**For Parth Textiles ,MIDC  
Chikhali**

**Dr. Nilesh N. Gawande**

**PRINCIPAL**

Late Bhaskarrao Shingane Arts,  
Prof. Narayanrao Gawande Science &  
Ashalata Gawande Commerce College,  
Sakharkherda Tq. S. Raja Dist. Buldana

**Authorized Signatory**



**Shri. Rajesh Ingole**  
**PARTH TEXTILE PROCESSING**  
Parth Textiles ,MIDC Chikhali  
**INDUSTRIES**  
**Authorized Signatory**

<b>Name of the Institution:-</b> Late Bhaskarrao Shingane Arts, Prof. Narayanrao Gawande Science And Ashalata Gawande Commerce College, Sakharkherda	<b>Name of the Industry:-</b> <b>Parth Textiles ,MIDC Chikhali</b>
Address:-Lavala Road, Sakharkherda, Tq-Sindkhed Raja, Dist-Buldhana -443202	Address:- <b>Parth Textiles ,MIDC Chikhali,</b> <b>443201</b>
Contact Details:-9822364082	Contact Details:- 9850877030
Email:- <a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>	Email:- .....@gmail.com
Web:- <a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>	Web:- .....

Witness 1:-

Witness 2:-

**MEMORANDUM OF UNDERSTANDING**

**DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS**

**LATE B.S.ATRS, PROF. N.G. SCIENCE AND A.G.COMMERCE COLLEGE  
SAKHARKHERDA**

**AND**

**BULDHANA JILHA FENCING ASSOCIATION, CHIKHALI**

For exchange of Fencing knowledge, information, facilities and training

The prime aim of this memorandum of understanding is exchange of sports knowledge, information, facilities for promotions of Fencing talent and exchange of available resources through collaborative and symbiotic efforts for qualitative enhancement of sports performance. It will be done through various activities in both the campuses. We are willing to avail the expertise and facilities available in your institution and in exchange we are willing to offer the resources available with us for mutual interest.

**Both the institutions will do:**

1. Mutually exchange the expertise available in both the college in different Fencing -related activities.
2. Availing the training facilities available in both the campuses for training And competition purpose.
3. Caches and student exchange programme for mutual benefit and sharing of the knowledge.
4. Both the institutions will provide infrastructural facilities for training of Fencing Students and for organizing competitions.

5. This agreement will come into effect from the date of signing of this agreement and shall be valid for five year from that date unless sooner terminated, revoked, or modified by mutual written agreement between the parties and may be extended by mutual written agreement.

This MOU shall be identified as the parent document of any program agreement executed between the parties. For agreed upon activities, both institutions will make available their facilities and staffs. This MOU will take effect on and will be valid for five (5) years from the date noted in the first line of this document unless terminated by one of the parties. This MOU may be renewed for another period of five (5) years upon mutual written consent of the parties before the expiration date. Each institution will have copies of this agreement.

The following authorized individuals have signed the present MOU on behalf of their respective institutions:

Name of Institution

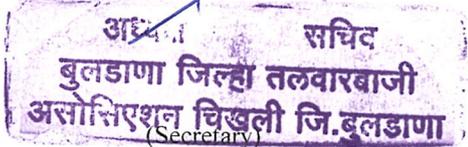


**PRINCIPAL**

Late Bhaskarrao Shingara Arts &  
Prof. Narayanao Gawande Science &  
A.G. Commerce College Sakharherda  
Ashalata Gawande Commerce College,  
Sakharherda Tal. S. Raja Dist. Buldhana

Authorized Signature

Name of association

अध्यक्ष सचिव  
बुलडाणा जिल्हा तलवारबाजी  
असोसिएशन चिखली जि. बुलडाणा  
(Secretary)

Buldhana jilha Fencing Association,  
Buldhana

Authorized Signature

<b>Name of Institution</b>	Late B.S.Arts.Prof.N.G.Science & A.G.Commerce College Sakharkherda	<b>Name of association</b>	Buldhana jilha Fencing Association,Buldhana
<b>Address</b>	At.Sakharkherda Dist.Buldhana	<b>Address</b>	At.Chikhali Dist.buldhana
<b>Contact Details</b>	9822364082	<b>Contact Details</b>	9421470634
<b>E-mails</b>	<a href="mailto:lbsac336@sgbau.ac.in">lbsac336@sgbau.ac.in</a>		
<b>web</b>	<a href="http://www.lbsangsagcc.org">www.lbsangsagcc.org</a>		

M.Sc. Sem-I to IV  
(Botany)

Prospectus No. 2017126

संत गाडगे बाबा अमरावती विद्यापीठ

SANT GADGE BABA AMRAVATI UNIVERSITY

विज्ञान विद्याशाखा  
(FACULTY OF SCIENCE)

अभ्यासक्रमिका  
विज्ञान पारंगत परिक्षा (वनस्पतीशास्त्र)  
सत्र- १ ते ४

**PROSPECTUS**  
OF  
MASTER OF SCIENCE EXAMINATION  
IN  
BOTANY  
Semester - I & III, Winter 2016  
Semester - II & IV, Summer 2017,



2016

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PUBLISHED BY  
Dr. Ajay P. Deshmukh  
Registrar  
Sant Gadge Baba  
Amravati University  
Amravati-444602



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**SEMESTER-IV****PRACTICAL-VII: PLANT ECOLOGY, ENVIRONMENTAL ECOLOGY,  
BIOTECHNOLOGY AND GENETIC ENGINEERING.****PRACTICAL SCHEDULE**

Time : 8 hrs.

Marks 40

- Q.1. Setting and working of any of major plant Ecology Expt. — 08 Marks
- Q.2. Setting and working of major Experiment on Biotechnology — 08 Marks
- Q.3. Working of major experiment on Environmental Ecology — 07 Marks
- Q.4. Major Experiment on Genetic Engineering — 07 Marks
- Q.5. Comment on one minor Experiment on genetic Engineering/ Biotechnology. — 05 Marks
- Q.6. Viva-Voce — 05 Marks

**Important note: -**

One long and two short Botanical Excursions and visits to Scientific Laboratories /Institutions /Universities/Botanical Gardens/ Forests within and out of state are compulsory for students of M.Sc. Botany.

**PRACTICAL-VIII :**

Project to the students will be distributed at the beginning of third Semester with the consent of HOD and shall be examined during the period of practical examination in IV Semester

Project  
Int. Assessment

40 marks

10 Marks

\*\*\*\*\*





**Scheme of Teaching, Learning & Examination leading to the Degree in Master of Science in the Programme Botany**  
(Two year- Four Semester Degree Programme- C.B.C.S.)  
(M.Sc. Part D) Semester I

S. No.	Subject	Subject Code	Teaching & Learning Scheme				Duration of Exam Hours	Examination & Evaluation Scheme				Total Marks	Minimum Passing Marks	Minimum Grade		
			L	T	P	Total		L/T	Practical	Total	Theory				Practical	External
			Teaching Periods Per Week				Credits									
1	DSC-I Cell and Molecular Biology	BOT 101	3	-	-	3	3	-	3	3				100	40	P
2	AEC- I Molecular Techniques	BOT 102	-	1	-	1	1	-	1	1				50	25	P
3	DSC-II Evolution and Diversity of Algae and Fungi	BOT 103	4	-	-	4	4	-	4	4				100	40	P
4	DSC -III Economic Botany and Resource Utilization	BOT 104	4	-	-	4	4	-	4	4				100	40	P
5	DSC- IV Plant Development	BOT 105	4	-	-	4	4	-	4	4				100	40	P
6	Lab- 1 Practical Based on DSC I & II	BOL 101	-	-	6	6	-	3	3	*				100	50	P
7	Lab-2 Practical Based on DSC III & DSE-I	BOL 102	-	-	6	6	-	3	3	*				100	50	P
8	# Internship / Field Work / Work Experience @															
9	Open elective/ GIC/ Open skill/ MOOC* BOEC I Medicinal Plant Diversity	BOEC 101	4	-	-	4	4	-	4	4				100	40	P
<b>Total</b>						<b>28</b>				<b>26</b>				<b>650</b>		

**L: Lecture, T: Tutorial, P: Practical**

# Student may complete their Internship/ Field Work/ Work experience in First or Second or Third semester of Master of Science in the Programme, according to their convenience; @ denotes Non-Examination credits.

**Note:** Internship/ Apprenticeship/ Field Work Experience (during vacations of semester I to III. This will carry 2 credits for learning of 60 hours or 3 Credits for learning of 90 hours. Its credits and grades will be reflected in final semester IV credit grade report.

**-OEC** (Optional) can be studied during semester I to IV

NOTIFICATION

No. 39 / 2018

Date: 7 / 6 / 2018

**Subject : Introduction of new syllabi for M.Sc. (Chemistry) Part-II (Sem. III & IV), which to be implemented from the academic session 2018-19.**

- 1) It is notified for general information of all concerned that the authorities of the University has introduced new syllabi for M.Sc.(Chemistry) Part-II (Sem. III & IV), which to be implemented from the academic session 2018-19. Hence the page Nos. 26 to 91, appearing in prospectus No. 2015125 be substituted respectively by the "**APPENDIX**", which is appended with this notification.
- 2) The authorities further provided two additional chances for the failure students of M.Sc.(Chemistry) Part-II (Sem.III & IV) after implementation of the aforesaid new syllabi.

Sd/-  
(Dr.A.P.Deshmukh)  
Registrar,  
Sant Gadge Baba Amravati University

**APPENDIX**

**SEMESTER –III  
Paper IX SPECTROSCOPY-I**

**Total Lectures: 60Hrs, 4 Hrs per week, 12 Hrs/unit**

**Total Marks-80**

**Unit-I :**

**12L**

**A) Unifying principle:** Electromagnetic radiation, interaction of electromagnetic radiation with matter-absorbance emission, transmission, reflection, refraction, dispersion, polarization and scattering, Diffuse Reflectance (DRIFT), reflection absorption (RAIRS), multiple internal reflection (MIR) Uncertainty relation and natural line width and line broadening, transition probabilities, transition moment, selection rule, intensity of spectral lines. rotational, vibrational and electronic energy level. Fourier Transform spectroscopy.

**B) Microwave spectroscopy:** Classification of molecules, rigid rotor model. Rotation and Vibration of Diatomic Molecules: effect of isotopic substitution on the transition frequencies, intensities, non rigid rotor, nuclear and electron spin interaction and effect of external field, energy eigenvalues and Eigen states Classification of polyatomic rotors and the non-rigid rotor, Electronic transitions, Franck-Condon principle. Fluorescence and phosphorescence.

**C) Reactivity and Characteristics of Nanoparticles:** Increased reactivity of nanoscale materials, reasons for high reactivity, effect of size and shape of nanocrystals on reactivity, comparison of nanocrystalline versus macro-crystalline materials in terms of reactivity

**Unit-II**

**12L**

**A) Ultraviolet and visible spectroscopy :** Various electronic transition (185-800nm), Beer-Lambert law, effect of solvent on electronic transition, UV band for carbonyl compounds, unsaturated carbonyl compound, diene, conjugated polyenes. Fisher-Woodward rules for conjugated dienes and carbonyl compounds, UV spectra of aromatic and heterocyclic compounds, Fieser-Kuhn rules for polyenes, Steric effects in biphenyls.

**B) Infrared spectroscopy :** Review of linear harmonic oscillator, vibrational energies of diatomic molecules, zero point energy, force constant and bond strength, unhormonicity, Morse potential energy diagram, vibration of polyatomic molecules, selection rules, normal modes of vibration, group frequencies, overtone band, factors effecting the band position and intensities, far IR region, metal ligand vibrations, Instrumentation and sample handling characteristics. Vibrational frequencies of alkanes, alkenes, alkynes, aromatic compounds, alcohols, amines. Detail study of vibrational frequencies of carbonyl compounds, (ketones, aldehydes, esters, amides, acids, acid chlorides and anhydrides, lactones, lactams and conjugated carbonyl compounds). Effect of hydrogen bonding and solvent on vibrational frequencies, overtones, combinations bands and Fermi resonance. FT-IR, IR of gaseous solids and polyatomic materials. applications of vibrational spectroscopy in investigating (i) symmetry and shapes of simple AR<sub>2</sub>, AR<sub>3</sub> and AR<sub>4</sub> molecules on the basis of spectral data. (ii) mode



**SEMESTER IV**  
**Practical – VII**  
**Organic Chemistry Special**

**Total Hours: 90 hrs. (9 Hours per week) Marks: 100**

**A- Qualitative Organic Analysis: (40 Marks) (12 Laboratory Session)** Separation, purification and identification of ternary (three component) mixtures. The water soluble solid/liquid should also be given. Student should submit the purified samples of the separated compounds and prepare a suitable derivative of the three compounds separated out.

**Note :** Analysis of at least ten mixtures should be carried out.

<b>Scheme of Marking: Type of the mixture</b>	<b>10</b>
i). Analysis of the individual components: (10 Marks for each component)	
ii). Detection of Elements	02
iii). Detection of functional groups	02
iv). Determination of MP/BP	02
v). Preparation of the derivative	02
vi). Identification (Spotting)	02

**B- Spectral Interpretation and use of Chem draw software (Total Laboratory Session 6) (15 marks)**

**C: Miscellaneous Experiments (Mandatory) (Total Laboratory Session 8) (25 marks)**

- (1) Reduction reaction of 3-nitroacetophenone (Stereo selective synthesis)
  - (i) Reduction with Tin and Hydrochloric Acid
  - (ii) Reduction with sodium borohydride
- (2) Grignard Reaction: Conversion of Benzophenone into triphenyl methanol.
- (3) Synthesis of 5,5-Diphenylhydantoin from benzil, as an anticonvulsant.
- (4) Extraction of Limonene (essential oil) from orange by steam Distillation.
- (5) Synthesis of anaesthetic drug Benzocaine.
- (6) Synthesis of anticancer drug 6-methyl uracil.
- (7) Synthesis of  $\alpha$ -Acetylamino cinnamic acid from glycine.
- (8) Estimation of blood sugar, calcium, and total nitrogen and non-protein nitrogen in blood.

**Practical-VI**  
**Organic Chemistry**

**Time : 6-8 Hrs. (One day Examination) Marks : 100**

(1) Exercise-1 (Organic Synthesis) -	40 Marks
(2) Exercise-2 (Qualitative Analysis) -	15 Marks
(3) Exercise-3 (Qualitative Analysis) -	25 Marks
(4) Record -	10 Marks
(5) Viva-Voce -	10 Marks

**Total** **100 Marks**

**Books Suggested:**

1. Textbook of practical organic chemistry qualitative and quantitative analysis (Vol I & II)- A.I. Vogel.
2. Elementary practical organic chemistry small scale preparation (Langman)- A.I. Vogel.
3. A handbook of organic analysis.-H.T.Clark.
4. Systematic qualitative organic analysis H. Middleton.
5. Advanced practical organic chemistry-N. K. Vishnoi.
6. Small scale organic preparation-P.J. Hill
7. Practical organic chemistry-H. Dupont Durst & George W.Gokal.
8. Experimental organic chemistry Part I & II, P. R. Singh, D. S.Gupta & K.S. Bajpai.
9. Vogel's textbook of practical organic chemistry-A.R. Tatchell

Semester IV  
Practical-VII  
Physical Chemistry Special

**Practical Workload 9 Hrs./week**

**Time: 6-8 hours**

**Marks: 100**

**USE OF COMPUTER PROGRAMES 5 TERMS OF PRACTICALS.**

Treatment of experimental data, X-Y plots, programs with data preferably from physical chemistry practical. Students will operate two packages I) MS-Word and II) MS-Excel.

**Part-A**

- 1) To find out Energy of activation & Temperature coefficient of hydrolysis of methyl / ethyl acetate
- 2) To find out Energy of activation of the reaction between potassium persulphate & potassium iodide.
- 3) Determination of partial molar volume of solute and solvent in binary mixture



**Part-B**

- 1) Determination of Half Wave potential of metal ions by polarography.
- 2) Simultaneous determination of suitable of metal ion by polarography
- 3) Analysis of aspirin conductometrically and potentiometrically
- 4) Determination of sodium , potassium, lithium and calcium by Flame photometric individually and mixture.
- 5) Electronics measurement of resistance with multimeter and use of Wistone Bridge for accurate measurement of resistance.
- 6) Determine the dipole moment of given liquid.
- 7) Plot the current voltage curve for copper sulphate and sulphuric acid using bridge platinum electrode.
- 8) Determine the transport number of ions by moving boundary method.
- 9) Determine the composition of binary mixture spectrophotometrically

**Physical Chemistry Practical :**

**Distribution of marks:**

Two Days Examination - 6-8 Hrs.	100 Marks
Unit A	40
Unit B	40
Record	10
Viva-voce	10
<b>TOTAL</b>	<b>100</b>

**Semester IV  
Practical-VII  
Industrial Chemistry Special**

**Practical Workload 9 Hrs./week**

**Time: 6-8 hours**

**Marks: 100**

**Multi step organic Synthesis (Minimum 20 practical should be performed):**

1. Nitrobenzene - m-dinitrobenzene m-nitroaniline- m-nitrophenol.  
Anthranilic acid phenylglycine orthocarboxylic acid indigo
2. Cyclohexanone cyclohexanone oxime caprolactum.
3. Preparation of P- bromoaniline from aniline.
4. Preparation of Synthetic Zeolites.
5. Determination of N and P nitrogen and phosphorus containing fertilizer respectively by suitable methods.
6. Determination of Iron and Calcium from Cement by suitable methods.
7. Determination of Lead (Pb) from Opal Glass by suitable methods.
8. Experiments based on distillation under reduced pressure, fractional and steam distillation.
9. Measurement of flash point, ignition point, kinematic viscosity by U-tube method.
10. Estimation of Copper from fungicides.
11. Determination of pesticide contents in the soil.
12. Preparation of Methyl orange, Methyl red, orange II, Fluorescein, Quinoline, Anthraquinone
13. Quantitative estimations of important commercially available drugs.
14. Qualitative analysis of commercial available drugs including chromatographic technique.
15. Preparation of simple drugs involving two or three steps.
16. Preparation of melamine HCHO resin.
17. Determination of number average molecular weight (Mn) by end group analysis by conductometric method.
18. Determination of average molecular weight of polymer by viscometric method.
19. Determination of reducing sugar in cane juice.
20. Determination of moisture content and ash content of wood sample.
21. Experiments based on simple & fractional crystallization.
22. Analysis of nonfibrous materials used in pulp industries such as caustic soda as  $\text{Na}_2\text{O}$ , Soda ash as  $\text{Na}_2\text{O}$ , lime as  $\text{CaO}$ .



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**SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE - 2018 - PART TWO - 80**

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**Distribution of marks:****The Practical examination will be based on the syllabus for Industrial Chemistry (Elective Paper).****Time: 6-8 hours (one day examination)****Marks: 100**

I) Exercise -1 (Based on Synthesis)	- 40 Marks
II) Exercise-2 (Based on Quantative Analysis)	- 40 Marks
III) Record	- 10Marks
IV) Viva- Voce	- 10 Marks
<hr/>	
Total	-100 Marks

---

**List Of Books-**

1. Practical Engineering by S. S. Dara.
2. Labortary Preparation of Microchemistry by E. M. M. Effery, McGraw Hill.
3. Practical Course in Polymer Chemistry by S. J. Pnnea, Pargaman Press
4. Practical Pharmacognosy by T. B. Willis.
5. Practical Pharmacognosy by T. N. Vasudevan.
6. Indian Pharmacopea-1985, British Pharmacopea-1990.
7. Handbook of Drugs and Cosmetics by Mehrotra
8. Methods of Pesticide Analysis by Sree Ramuly U. I. Oxford and IBH Publishing Co.
9. Methods of testing for petroleum and petroleum products. IS 1448-1960 Part I to Part IV. Published by ISI New Delhi 1967
10. IP Stands for Petroleum and products Published Applied Service Publisher Ltd. London, 33<sup>rd</sup> Edition 1974.
11. American Stds. For testing Materials, New York 1967.
12. Textbook of Inorganic Chemistry by A. I. Vogel.
13. Instrumental Methods of Analysis by Willard, Merit and Dean
14. Industrials Chemicals, Faith et. al. Wiley Interscience New York
15. Textbook Of Practical Organic Chemistry by I. C. Voley.
16. Industrial Organic Chemistry by J. K. Stille
17. Unit Operations by Kale
18. Reagents for Organic Synthesis Fisher and Fisher.
19. Technique of Organic Chemistry Vol I, Part I- IV A. Weishberger.

**SEMESER IV  
Practical – VII  
Project Work****Total Hours: 90 hrs. (9 Hours per week)****Marks: 100**

The students will develop utilities such as analytical spectra, simulation programs that will supplement laboratory exercises in their subject of specialisation. Literature survey, Studies of reactions, synthesis, mechanism, isolation of natural products, standardization of reaction conditions, new methods etc. External and internal examiners will examine this jointly at the time of practical examination. (Students should present his/her work in power point presentation. Open Viva is compulsory. Soft Copy of presentation in CD should be submitted with dissertation.)

**Study Tour:****Educational/Industrial tour is compulsory for M.Sc. Chemistry.**

(i) Semester I/II: Visit to local Industry/Institute.

(ii) Semester III/IV: Education tour to visit the industry/Research laboratory (Long Tour).

Students should submit their tour report at the end of Semester II and Semester IV respectively with proof of visiting (Photo etc.).

**List of equipments/appratus required for the M.Sc. Chemistry Semester-I to IV Practicals.**

- |                                  |               |
|----------------------------------|---------------|
| 1. Rotaevaporater                | 01 no./batch  |
| 2. Crycooler                     | 01 no./batch  |
| 3. Sonicator bath                | 01 no./batch  |
| 4. Stirrer With Hot Plate        | 04 nos./batch |
| 5. Eye Washer                    | 01 no./batch  |
| 6. Chemdraw Software (version12) | 01 no./batch  |
| 2. Conductivity meter            | 03 nos./batch |
| 2. pH meter                      | 03 nos./batch |
| 3. Potentiometer                 | 03 nos./batch |
| 4. Polariometer                  | 02 nos./batch |
| 5. Centrifuge machine            | 02 nos./batch |
| 6. Vaccum Pump                   | 01 no./batch  |
| 7. Hot air oven                  | 01 no./batch  |



Sant Gadge Baba Amravati University, Amravati

Sant Gadge Baba Amravati University Amravati

Scheme of teaching, learning & Examination leading to the Degree Master of Science (Choice Based Credit System) (Two Years ... Four Semesters Degree Course) (M.Sc. Part-I) Semester- I, Subject: Chemistry/Industrial Chemistry

(M.Sc. Part-I) Semester- I, Subject: Chemistry/Industrial Chemistry

Teaching & Learning Scheme

Duration of Exams Hrs.

Examination & Evaluation Scheme

Sr. No	Subjects	Subject Code	Teaching Period Per week				Credits				Duration of Exams Hrs.	Maximum Marks				Total Marks	Minimum Passing Marks	Grade
			L	T	P	Total	Theory L/T	Internal Ass.	Practical	Total		Theory + M.C.Q. External	Theory Internal	Practical Internal	Practical External			
1	DSC-I (Inorganic Chemistry)	CY101	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P	
2	DSC-II (Organic Chemistry)	CY102	03	--	--	03	03	--	03	03	80	20	--	--	100	40	P	
3	DSC-III (Physical Chemistry-I)	CY103	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P	
4	DSC-IV (Analytical Chemistry-I)	CY104	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P	
5	AEC-I on DSC-II (Structural Chemistry)	CY105		01		01	01		01	01		25			25	10	P	
6	Lab-I (Physical Chemistry)	CY106			09	09			4.5	06		--	--	100	100	50	P	
7	Lab-II (Organic Chemistry)	CY107			09	09			4.5	06		--	--	100	100	50	P	
8	#Internship/Field Work/Work Experience@ Open elective/GIC/Open Skill/MOOC*																	
9	Total		15	01	18	34	16		09	25					625			

L: Lecture, T: Tutorial, P: Practical

- # Students may complete their Internship/field work/work experience in first or second or third semester of M.Sc. (Chemistry/Industrial) according to their convenience; @denotes non-examination credit



Sant Gadge Baba Amravati University, Amravati

Sant Gadge Baba Amravati University Amravati

Scheme of teaching, learning & Examination leading to the Degree Master of Science (Choice Based Credit System) (Two Years ... Four Semesters Degree Course- C.B.C.S)

(M.Sc. Part-I) Semester- II, Subject : Chemistry/Industrial Chemistry

Sr. No	Subjects	Subject Code	Teaching Period Per week				Credits				Duration of Exams Hrs.	Examination & Evaluation Scheme				Minimum Passing Grade		
			L	T	P	Total	Theory L/T	Internal Ass.	Practical	Total		Maximum Marks		Total Marks				
												Internal	External					
1	DSC-V (Advance Inorganic Chemistry)	CY201	04	-	-	04	04	-	-	04	03	80	20	-	-	100	40	P
2	DSC-VI (Organic Reaction Mechanism)	CY202	03	-	-	03	03	-	-	03	03	80	20	-	-	100	40	P
3	DSC-VII (Physical Chemistry-II)	CY203	04	-	-	04	04	-	-	04	03	80	20	-	-	100	40	P
4	DSC-VIII (Analytical Chemistry-II)	CY204	04	-	-	04	04	-	-	04	03	80	20	-	-	100	40	P
5	AEC- II on DSC-VI (Acid and Bases and Virtual Lab)	CY205	-	01	-	01	01	-	-	01	01	-	25	-	-	25	10	P
6	Lab-III (Physical Chemistry)	CY206			09	09		4.5	4.5		06			-	-	100	50	P
7	Lab-IV (Inorganic Chemistry)	CY207			09	09		4.5	4.5		06			-	-	100	50	P
8	#Internship/Field Work/Work Experience@																	
9	Open elective/GIC/OpenSkill/MOOC*																	
	<b>Total</b>		15	01	18	34	16		09	25						625		

L: Lecture, T: Tutorial, P: Practical

- # Students may complete their internship/field work/work experience in first or second or third semester of M.Sc. (Chemistry/Industrial) according to their convenience; @denotes non-examination credit
- Note: Internship/Apprenticeship/field work/work experience (During vacations of semester I to semester III) for duration of minimum 60 hours to maximum 90 hours mandatory to all the students, to be completed during vacations of semester I to III. This will carry 2 credits for learning of 60 hours or 3 credits for learning of 90 hours. Its credits and grades will be reflected in final semester IV credit grade report.
- OEC (optional) can be studied during semester I to IV.

Sant Gadge Baba Amravati University, Amravati

## Syllabus Prescribed for Two Year PG Programme

Programme: MSc (Chemistry)

Semester 2

Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
CY206	Physical Chemistry (Lab-03)	90 hrs (9 hrs/week)

**Course Outcomes:** At the end of the course students would be able to

1. Apply knowledge to determine reaction rate of chemical reactions
2. Create methods for estimation of concentration of electrolytes in mixture using potentiometry.
3. Correlate nature of graphs in conductometric titrations
4. Improve skill to perform experiment in electroanalytical methods
5. Correlate structure property relationship of conjugated systems
6. Design conjugated polymer of desired optoelectronic property.

**Part A**

1. Determine the specific reaction rate of the potassium persulphate-iodide reaction by the initial rate method.
2. Study the kinetics of the iodination of acetone in the presence of acid by the Initial Rate Method.
3. Study of enzyme-substrate catalysis reaction: the hydrolysis of p-nitrophenyl phosphate as catalysed by alkaline phosphatase
4. Kinetics of Iodine Clock Reaction
5. Study of an Oscillating Reaction: the oscillating reaction (Belousov-Zhabotinsky) to be studied using the  $Ce^{3+}/Ce^{4+}$  system; dependence of the oscillation period on the metal ion concentration to be monitored.
6. *Ab-initio* calculation of rotational barrier between eclipsed and staggered conformation of ethane
7. Calculation of potential energy surface of  $H_2O_2$  molecule using HF/6-31G(d,p)
8. Particle in 1D Box: Quantum mechanical calculation of HOMO-LUMO gap in ethene, 1,3 butadiene and 1,3,5-hexatriene.

**Part B**

1. Titrate conductometrically a moderately strong acid (salicylic/ mandelic acid) by the
  - a. salt-line method
  - b. double alkali method.
2. Titrate conductometrically a mixture of copper sulphate, acetic acid and sulphuric acid with sodium hydroxide.
3. Titrate conductometrically a tribasic acid (phosphoric acid) against NaOH and  $Ba(OH)_2$  conductometrically.
4. Titrate conductometrically magnesium sulphate against  $BaCl_2$  and its reverse titration
5. Estimate the concentration of each component of a mixture of  $AgNO_3$  and  $HNO_3$  by conductometric titration against NaOH.
6. Determine the degree of hydrolysis of aniline hydrochloride conductometrically.
7. Determine the solubility and solubility product of an insoluble salt,  $AgX$  ( $X=Cl, Br$  or  $I$ ) potentiometrically.
8. Determine the mean activity coefficient ( $\gamma_{\pm}$ ) of 0.01 M hydrochloric acid solution potentiometrically.
9. Study the titration phosphoric acid potentiometrically against sodium hydroxide.
10. Find the composition of the zinc ferrocyanide complex by potentiometric titration.
11. Titrate potentiometrically solutions of mixture of  $KCl + KBr + KI$  and determine the composition of each component in the mixture.
12. Verify the Debye-Hückel theory through the solubility of ionic salts.

**CY206 Physical Chemistry (Lab 03)**

Time : 6-8 Hrs. (One day Examination)

Total Marks : 100

(1) Exercise-1 (Part A)	40 Marks
(2) Exercise-2 (Part B)	40 Marks
(3) Record	10 Marks
(4) Viva-Voce	10 Marks

Total -100 Marks

**Course Material/Learning Resources: (to be upod****Books Suggested-****Books Suggested:**

1. J. B. Yadav, Practical Physical Chemistry
2. Das and Behra, Practical Physical Chemistry
3. Carl W. Garland, Joseph W. Nibler and David P. Shoemaker, Experiments in Physical Chemistry, Mc-Graw Hill, 8<sup>th</sup> Edition, 2009.
4. Farrington Daniels, Joseph Howard Mathews, John Warren Williams, Paul Bender, Robert A. Alberty, Experimental Physical Chemistry, Mc-Graw Hill, Fifth Edition, 1956.
5. John W. Shriver and Michael George, Experimental Physical Chemistry, Lab Manual and Data Analysis, The University of Alabama in Huntsville, Fall 2006
6. Jahgirdar D.V: Experiments In Chemistry

**Weblink to Equivalent MOOC on SWAYAM if relevant:**

Sant Gadge Baba Amravati University, Amravati

## Syllabus Prescribed for Two Year PG Programme

Programme: MSc (Chemistry)

Semester I

Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
CY207	Inorganic Chemistry (Lab-04)	90 hrs (9 hrs/week)

**Course Outcomes:** At the end of the course students would be able to

1. apply knowledge to develop method for qualitative identification elements from the mixture having applications in industry and research
2. create methods for estimation of element/metal from the complexes.
3. improve skill for separation identification and removal of interfering radicals
4. get idea about development of spot test for the different elements.
5. Understand importance of metal complexes and green methods for the synthesis.

**Part-A**

Preparation of inorganic compounds. It is expected that preparation should be carried out using tenets of Green Chemistry. Any one of the prepared compound may be characterized by elemental analysis/estimation or MW determination or decomposition temperatures or molar conductance studies. (Any Five)

1. Preparation of  $[\text{VO}(\text{acac})_2]$
2. Preparation of bis(acetylacetonato)copper(II).
3. Preparation of tris (acetylacetonato) iron (III).
4. Preparation of tris (acetylacetonato) manganese (III).
5. Preparation of Isomers of Tris (8-Hydroxyquinolinato) aluminium (III)
6. Preparation of Potassium trioxalatomanganate(III),  $\text{K}_3[\text{Mn}(\text{C}_2\text{O}_4)_3]$
7. Preparation of Cis and trans isomers of  $[\text{Co}(\text{en})_2\text{Cl}_2]\text{Cl}$
8. Preparation of Cis/Trans  $\text{K}[\text{Cr}(\text{C}_2\text{O}_4)_2(\text{H}_2\text{O})_2] \cdot 2\text{H}_2\text{O}$  potassium bisoxalato diaquo chromate(III) dehydrate
9. Preparation of  $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3]$
10. Preparation of  $[\text{Co}(\text{Py})_2\text{Cl}_2]$
11. Preparation of  $[\text{Ni}(\text{DMG})_2]$
12. Preparation of  $[\text{Cu}_2(\text{CH}_3\text{COO})_4(\text{H}_2\text{O})_2]$
13. Preparation of  $\text{K}_3[\text{Al}(\text{C}_2\text{O}_4)_3](\text{H}_2\text{O})_3$

**Part-B**

Quantitative Analysis (Any two)

Quantitative analysis of mixture of cations involving their chemical separation and separate analysis of one cation by gravimetry and another by volumetric or colorimetric. Quantitative analysis of (Brass, Bronze and Dolomite)

**Part-C**

Qualitative analysis of Eight mixtures

Qualitative analysis of mixtures containing at least five radicals including interfering radicals (not more than one such radical in a mixture), rare earth (not more than two rare earths in a mixture)

1. Cations of: Ag, Pb, Hg, Cu, Cd, Sn, Bi, As, Sb, Fe, Al, Cr, Co, Ni, Mn, Zn, Ca, Sr, Ba, Mg, Na and K.  $\text{NH}_4^+$
2. Cations of rare elements: W, Tl, Mo, Ce, Ti, Th, Zr, U, V, Be and Li.
3. Interfering radicals: Phosphate, Oxalate, Fluoride and Tartrate.

**CY207 Inorganic Chemistry (Lab 04)**

Time : 6-8 Hrs. (One day Examination)

Total Marks : 100

(1) Exercise-1 (Inorganic preparation)	40 Marks
(2) Exercise-2 (Qualitative Analysis of mixture/ Quantitative analysis of mixture)	40 Marks
(3) Record	10 Marks
(4) Viva-Voce	10 Marks

Total -100 Marks

**Course Material/Learning Resources:****Books Suggested-**

1. Synthesis and Characterization of Inorganic Compounds, W. L. Jolly, Prentice Hall
2. Inorganic Experiments, J. Derck Woollins, VCH.
3. Practical Inorganic Chemistry, G. Mairand, B. W. Rockett, Van Nostrand.
4. Instrumental Methods of Analysis, Willard, Merit and Dean (CBS, Delhi)
5. Fundamental of Analytical Chemistry, Skoog D.A. & West D.M Holt Rinehart & Winston
6. Experimental Inorganic Chemistry, W.G.Palmer, Cambridge
7. Advance inorganic analysis by Agrawal Keemtilal, A Pragati Prakashan.
8. Advanced Practical Inorganic Chemistry – Gurdeep Raj
9. Vogel, A.I. A text book of Quantitative Analysis, ELBS 1986.
10. G. Marr and B.W. Rockett, Practical Inorganic Chemistry, Van Nostrand Reinhold. 197



Weblink to Equivalent MOOC on SWAYAM if relevant:

Sant Gadge Baba Amravati University, Amravati

APPENDIX – A-1,A-2

Sant Gadge Baba Amravati University Amravati

Scheme of teaching, learning & Examination leading to the Degree Master of Science (Choice Based Credit System) (Two Years ... Four Semesters Degree Course -C.B.C.S)  
(M.Sc. Part-II) Semester- IV , Subject : Chemistry/Industrial Chemistry

Sr. No	Subjects	Subject Code	Teaching Period Per week				Credits				Duration of Exams Hrs	Examination & Evaluation Scheme				Minimum Passing Grade	
			L	T	P	Total	Theory L/T	Internal Ass.	Practical	Total		Maximum Marks		Total Marks			
												Internal	External				
1	DSC -XI (Spectroscopy-II)	CY401	03	--	--	04	04	--	04	03	80	20	--	--	100	40	P
2	DSC -XII (Selected topics in Chemistry-II)	CY402	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P
3	DSE-III (Photoorganic & Organometallic Chemistry or Material chemistry /Organic Synthesis- II /Physical Chemistry-III /Polymer dyes and paints)	CY403	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P
4	SPC (interpenetration of spectra and Insituic approaches in chemistry )	CY404	04	--	--	04	04	--	04	03	80	20	--	--	100	40	P
5	AEC-IV on DSC -XI	CY405		01		01	01		01	01		--	25	--	25	10	P
6	Lab-VII (Project)	CY406			09	09		4.5	4.5	06		--	--	100	50	P	
7	Lab-VIII (Project)	CY407			09	09		4.5	4.5	06		--	--	100	50	P	
8	#Internship/Field Work/Work Experience@ Open elective/GIC/Open skill/MOOC*																
9	Total		16	01	18	35	17		09	26					625		

L: Lecture, T: Tutorial, P: Practical

# Students may complete their internship/field work/work experience in first or second or third semester of M.Sc. (Chemistry/Industrial) according to their convenience; @denotes non-examination credit



15. डॉ. बनसोड संतोष, डॉ. जाधव सिध्दार्थ - भारताचा इतिहास (प्रारंभापासून 1526 पर्यंत),  
साईनाथ प्रकाशन नागपूर.
16. डॉ. डोंगरे वसंत – मौर्यकालीन मुद्रा
17. डॉ. रोकडे प्रशांत – सम्राट अशोककालीन कृषी व्यवस्था, रोशन ऑफसेट प्रिंटर्स, दिल्ली

**Programme : B. A**

**Subject History**

**Semester2**

Code of the Course/Subject	Title of the Course/Subject	Total Number of Periods	No. of Credits
History	History of India from Early to 701 A.D to 1525 A.D.	75 Periods	05

**Course Assessment:** End Term Exam Marks: 80 (University level Exam)

**SEM (Skill Enhancement Module):** 20 Marks (College level evaluation)

**Course Outcome**

- 1: Survey the sources of History in Sultanate period of India.
- 2: Analyze the social, economic, religious and institutional bases of Sultanate period of India.
- 3: Known development of the concept of Nation- State background of political history.
- 4: Study Sultanate period of India Art & Architecture

**On successful completion of the Course the students will be able to:**

- 1: Learn the socio-political and cultural background of the Sultanate period of Indian History.
- 2: Learn various Sultanate period Indian History Tourist places and Guide Tourist.
- 3: Prepare for Competitive Examinations like UPSC, MPSC, and SET/NET etc.
- 4: Analyze various concepts in Social Studies through the Sultanate period of Indian History
- 5: Learn developments of mankind Through Religious Movements.



	<ol style="list-style-type: none"> <li>1) Gulams' Art and Architecture</li> <li>2) Tughluq's Art and Architecture</li> <li>3) Bahamani's Art and Architecture</li> <li>4) Vijaynagar's Art and Architecture</li> <li>5) <b>Regional Heritage Site- Ridhadpur</b>, Dist. Amravati, <b>Anjangaon Surji</b>, Dist. Amravati <b>Lasur</b>, Dist. Amravati, <b>Achalpur</b>, Dist. Amravati, <b>Kondeshwar</b>, Dist. Amravati, <b>Gavilgad fort</b>, Dist. Amravati, <b>Mahimapur</b>, Dist. Amravati, <b>Chikhaldara</b>, Dist. Amravati, <b>Karanja Lad</b>, Dist. Washim <b>Asadgad Fort</b>, Dist. Akola, <b>Narnala fort</b>, Dist. Akola, <b>Devagiri Fort</b>, Dist. Aurangabad <b>Mahurgad</b>, Dist. Nanded, Khandeshwar Temple, Nandgaon Khandeshwar Dist Amravati.</li> </ol>
<b>Activities:</b>	<ol style="list-style-type: none"> <li>5. Study Tour</li> <li>6. Project</li> <li>7. Seminar</li> <li>8. Assignment</li> </ol>

Weblink to Equivalent MOOC on SWAYAM:

3. [https://onlinecourses.swayam2.ac.in/cec22\\_ge38/preview](https://onlinecourses.swayam2.ac.in/cec22_ge38/preview)

(Tourism Transport and Travel Services)

By Mr. Srikanth. K. S | Dept. of Tourism and Hospitality Management PBM Mahajana PG Center

4. [https://onlinecourses.swayam2.ac.in/cec22\\_ge40/preview](https://onlinecourses.swayam2.ac.in/cec22_ge40/preview)

(Tourism Planning and Sustainable Development)

By Prashant Kumar Gautam | Panjab University | Chandigarh

**Books Recommended:**

1. Aivangar S.K. Saltanate India and South Indian History and Culture
2. Basham A.K.- The Wonder That was India.
3. Basham A.L. - The cultural History of India of Deccan
4. Bhandarkar R.G. :- Ear IV History
5. Desai Z.A. :- Indo-Islamic Architecture
6. Harle J. C. :- Art and Architecture of the India Subcontinent
7. Habibulla :- Foundation of Muslim Rule in India
8. Majumdar R. C. - History and culture of the Indian people vols. III, IV & V
9. Munshi V. K.M. and R. R. Diwakar:- Bharativa Vidya Bhavan series Indian Inheritance. 3 Vols
10. Puri Chopra and Das: Social and Economic History of India Vol.1
11. Rowland B. - The Art and Achitecture of India
12. Sharma R.S. :- Light on early Indian Society and Economy
13. Saraswati S.K:- A Survey of Indian Sculpture



2022-23

**Sant Gadge Baba Amravati University Amravati**  
**Scheme of teaching, learning & Examination leading to the Degree Bachelor of Commerce (Accounting & Finance) (Three Years -Six Semesters Degree Course- C.B.C.S)B. Com Part-I (Accounting & Finance)Semester- I**

Sr. No	Subjects	Subject Code	Teaching Period Per week			Credits			Duration of Exams Hrs.	Examination & Evaluation Scheme					Minimum Passing Marks	Grade
			L	T	P	Theory/ Tutorial	Practical	Total		Theory + M.C.Q External	Skill Enhancement Module Internal	Practical		Total Marks		
												Internal	External			
1	English (DSC)	BAF-01	04	-	-	04	04	03	60+20	20	-	-	100	40	P	
2	Business Communication Skill in English (AEC)	BAF-02	1	-	-	01*	01	-	-	-	25	-	25	10	P	
3	LANG-II (DSC)	BAF-03	03	-	-	03	03	03	60+20	20	-	-	100	40	P	
4	Business Communication Skill in Language-II (AEC)	BAF-03	-	1	-	01	01	-	-	-	25	-	25	10	P	
5	Financial Accounting -I (DSC)	BAF-04	05	-	-	05	04	03	60+20	20	-	-	100	40	P	
6	Investment Management (DSC)	BAF-05	05	-	-	05	04	03	60+20	20	-	-	100	40	P	
7	Business Economics (DSC)	BAF-06	05	-	-	05	04	03	60+20	20	-	-	100	40	P	
8	Generic Open Elective Course (GEOC)	BAF-07	02	-	-	02	02	College Level Evaluation			-	-	50	20	P	
11	Induction Programme	30 Hrs (one Week) at the beginning semester one only			-	-	01	-	-	-	-	-	-	-	-	-
<b>Total</b>						26	24						600			

L: Lecture, T: Tutorial, P: Practical

\* Regular Teaching for Compulsory English-04 periods/wk, 01 Tutorial /wk for a batch of 20 students



2022-23

**Sant Gadge Baba Amravati University Amravati**  
**Scheme of teaching, learning & Examination leading to the Degree Bachelor of Commerce( Accounting & Finance) (Three Years ... Six Semesters Degree Course-**  
**C.B.C.S)B. Com Part-I ( Accounting & Finance)Semester-I-I**

Sr. No	Subjects	Subject Code	Teaching & Learning Scheme				Duration of Exams Hrs.	Examination & Evaluation Scheme								
			Teaching Period Per week			Credits		Maximum Marks				Minimum Passing				
			L	T	P	Total		Theory/ Tutorial	Practical	Total	Theory + M.C.Q External	Skill Enhancement Module Internal	Practical Internal	Practical External	Marks	Grade
1	English (DSC)	BAF-11	04	-	-	04	--	04	03	60+20	20	-	-	100	40	p
2	Business Communication Skill in English (AEC)	BAF-11	-	1	-	01	-	01	-	-	--	25	-	25	10	p
3	LANG-II (DSC)	BAF-12	03	-	-	03	-	03	03	60+20	20	-	-	100	40	p
4	Communication Skill in LANG-II (AEC)	BAF-12	-	1	-	01	-	01	-	--	-	25	-	25	10	p
5	Financial Accounting II (DSC)	BAF-13	05	-	-	05	-	04	03	60+20	20	---	---	100	40	p
6	Business Mathematics (DSC)	BAF-14	05	-	-	05	-	04	03	60+20	20	--	--	100	40	p
7	Business Environment (DSC)	BAF-15	05	-	-	05	-	04	03	60+20	20	-	-	100	40	p
10	Generic Open Elective II- (GOEC)	BAF-27	2	-	-	2	--	2	College Level Evaluation				50	20	p	
<b>Total</b>			<b>26</b>				<b>23</b>					<b>600</b>				

L: Lecture, T: Tutorial, P: Practical

1. Regular Teaching for Compulsory English-04 periods/wk, 01 Tutorial /wk for a batch of 20 students



2022-23

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**Scheme of Teaching, Learning & Examination leading to the Degree in Bachelor of Science in the Programme Environmental Science  
(Three years- Six Semester Degree Programme- C.B.C.S.)  
(B.Sc. Part I) Semester II**

Sr.	Subject	Subject code	Teaching & Learning Scheme				Duration of Exam Hours	Examination & Evaluation Scheme				Minimum Passing Grade				
			Teaching Periods Per Week		Credits			Theory		Practical			Total Marks	Marks		
			L	T	P	Total	T/T	Practical	Total	Theory+ MCQ EMERL	Skill Enhancement Module	Internal	External			
1	DSC -2 Physical Environment & Natural Resources	EVS (2S)	6	-	-	6	4.5	-	4.5	80	20	-	-	100	40	P
2	Lab	EVS 2S PR	-	-	6	6	-	2.25	2.25	-	-	25	25	50	25	P
3	Total		6	-	6	6	4.5	2.25	6.75	80	20	25	25	150	65	P

L: Lecture, T: Tutorial, P: Practical

# Student may complete their Internship/ Field Work/ Work experience from Second to Fifth semester of Bachelor of Science in the Programme, according to their convenience. @ denotes Non-Examination credits

Note: Internship/ Apprenticeship/ Field Work Experience (during vacations of semester II to V This will carry 5 credits for learning of 150 hours. Its credits and grades will be reflected in final semester VI credit grade report



2022-23

**Scheme of Teaching, Learning & Examination leading to the Degree in Bachelor of Science in the Programme Environmental Science  
(Three years- Six Semester Degree Programme- C.B.C.S.)  
(B.Sc. Part I) Semester I**

Sr.	Subject	Subject code	Teaching & Learning Scheme					Duration of Exam Hours	Examination & Evaluation Scheme				Minimum Passing				
			Teaching Periods Per Week			Credits			Theory	Practical		Total Marks	Marks	Grade			
			L	T	P	Total	T/T			Practical	Total				Internal	External	
1	DSC I Environment & Ecology	EVS (IS)	6	-	-	6	4.5	-	4.5	03	80	-	-	100	40	P	
2	Lab	EVS IS PR	-	-	-	6	-	2.25	2.25	03	-	-	25	25	50	25	P
3	Total		6	-	-	6	4.5	2.25	6.75	06	80	20	25	150	65	P	

L.: Lectures, T: Tutorial, P: Practical

# Student may complete their Internship/ Field Work/ Work experience from Second to Fifth semester of Bachelor of Science in the Programme, according to their convenience. '0' denotes Non-Examination credits

Note: Internship/ Apprenticeship/ Field Work Experience (during vacations of semester II to V This will carry 5 credits for learning of 150 hours. Its credits and grades will be reflected in final semester VI credit grade report.



**Sant Gadge Baba Amravati University, Amravati**

**Faculty: Science and Technology**

**Programme: B.Sc. ( Chemistry )**

**POs:**

At the time of graduation, Students would be able to

PO1.Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

**PSOs:**

Upon completion of the programme successfully, the learners would be able to-

1. Understand the scope, methodology and application of modern chemistry.
2. Apply theoretical and practical concepts of instruments that are commonly used-in most chemistry field.
3. Plan and conduct scientific experiments and record the results of such experiments.
4. Get acquainted with safety of chemicals, transfer, and measurements of chemicals, preparation of solutions, and using physical properties to identify compounds and chemical reactions.
5. Describe how chemistry is useful to solve social, economic and environmental problem and issues facing our society in energy, medicine, and health.

**Employability Potential of the Programme:**

A degree in Chemistry is an intelligent choice for future employability and earning potential for learners. Degree program with Chemistry offers the necessary knowledge, develop skills and nurture creativity to achieve success in virtually any field that's even distantly related in some way to chemistry. A degree in chemistry is recognized as a symbol of quality and commitment by employers both inside and outside the chemical industries. Chemistry provides jobs in cutting-edge technologies within science and research as well as in many fields of distant relations. Chemistry graduates apply their skills within the areas of environmental sciences, medical fields, scientific equipment sales, science communication, teaching or academic research, a few to mention. Thus, a degree in chemistry widens numerous prospects and opportunities for a wide



**Syllabus Prescribed for Three Year UG/PG Programme**

**Programme:**

**Semester 1**

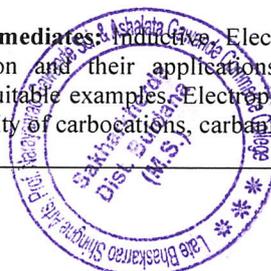
Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
CHE(1S)T	Chemistry 1S	84

**COs:**

By the end of this course, the students would be able to:

1. Solve the conceptual questions using the knowledge gained by studying periodicity in atomic radii, ionic radii, ionization energy and electron affinity of elements.
2. Apply concepts of acids and bases as well as non-aqueous solvents and their industrial usage.
3. Compare different reaction intermediates, functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.
4. Choose correct synthetic approach to prepare derivatives of industrially important molecules
5. Solve different numerical problem of varying difficulty associated with gaseous and liquid state.
6. Apply the concepts from advanced mathematics to solve the derivation of different chemical formulae.

Unit	Content
Unit I	<p><b>Periodicity of Elements:</b> s and p block elements; Pauli's Exclusion Principle, Hund's rule of maximum multiplicity, Aufbau principle. Shapes of s and p orbitals. Electronic configuration for s and p block elements. Detailed discussion of the following properties of the elements, with reference to s and p-block. (a) Nuclear charge and number of shell and its variations (b) Atomic and ionic radii and their variations (d) oxidation states (e) Ionization potential, Successive ionization potential and its variations. (f) Electron affinity and its trends. (g) Electronegativity and its variations. Effect of ionization energy and electronegativity on different properties of elements namely metallic and non-metallic character, relative reactivity, oxidizing and reducing properties. Diagonal relationships: Li with Mg, B with Al. Abnormal behavior of nitrogen.</p> <p style="text-align: right;"><b>Periods: 14</b></p>
Unit II	<p><b>A) Acids and Bases-</b> Arrhenius, Bronsted-Lowry, and Lewis's theory of acids and bases, Theory of solvent systems and Lux-Flood concept of acids and bases. Hard and soft acids and bases. Pearson's HSAB or SHAB principle with important applications.</p> <p><b>B) Nonaqueous Solvents-</b>Requirements of a good solvent. Water as a universal solvent. Physical properties of solvents namely liquid range, dielectric constant, dipole moment, heat of vaporization and solubility behavior. Classification of solvents. Acid base, precipitation, redox, solvolysis and complexation reactions in liquid ammonia. Merits and demerits of liquid ammonia as a solvent.</p> <p style="text-align: right;"><b>Periods: 14</b></p>
Unit III	<p><b>Basics of Organic Chemistry:</b></p> <p><b>A) Electronic Displacement and Reactive Intermediates:</b> Inductive Effect, Electromeric, Resonance, Mesomeric effects, Hyperconjugation and their applications, dipole moment, homolytic and heterolytic fission with suitable examples. Electrophiles and nucleophiles. Types, shape and their relative stability of carbocations, carbanions, free radicals and carbenes and nitrene.</p>



	<p><b>B) Aliphatic Hydrocarbons:</b> Formation and reaction of alkanes, Formation of alkenes and alkynes by elimination reactions (with mechanism of E1, E2, E1cb), Saytzeff and Hofmann eliminations, Reactions of alkenes and alkynes, Diels-Alder reaction.</p> <p><b>C) Structural isomers:</b> Definition, classification, and examples.</p> <p style="text-align: right;"><b>Periods: 14</b></p>
Unit IV	<p><b>Aromatic Compounds:</b></p> <p><b>A) Structural Properties:</b> Aromaticity and Huckel's rule (Benzenoid and Non-Benzenoid compounds), Kekule and Dewar structures, Molecular orbital diagram of benzene, Anti-aromatic and non-aromatic compounds.</p> <p><b>B) Orientation effect:</b> Effect of substituent groups, Activating and deactivating group, Theory of reactivity and orientation on the basis of inductive and resonance effects.</p> <p><b>C) Electrophilic aromatic substitution:</b> Halogenation, nitration, sulphonation and Friedal Craft's alkylation/acylation with their mechanism.</p> <p style="text-align: right;"><b>Periods: 14</b></p>
Unit V	<p><b>Gaseous State:</b></p> <p>Postulates of kinetic theory of gases, Maxwell-Boltzmann distribution of velocities (only qualitative treatment), RMS velocity, Average velocity, Most probable velocity, Relationship between RMS velocity and Average velocity, RMS velocity and Most probable velocity, Mean free path, Collision diameter, Collision number or Collision frequency, Deviation of real gases from ideal behaviour, Explanation of deviations, Derivation of van der Waal's equation for real gases. Critical phenomenon, Andrew's experiment (isotherms of carbon dioxide) Critical constant <math>P_c</math>, <math>T_c</math>, <math>V_c</math> in terms of van der Waal's constant (a, b) Derivation of reduced equation of state, Law of corresponding state, Numerical.</p> <p style="text-align: right;"><b>Periods: 14</b></p>
Unit VI	<p><b>A) Liquid State:</b></p> <p>Definition of surface tension, Its SI unit and effect of temperature on surface tension, Derivation of expression for relative surface tension by stalagmometer method. Applications of surface tension. Viscosity, definition of coefficient of viscosity, Its SI unit and effect of temperature on viscosity, Derivation of expression for relative viscosity by Ostwald's viscometer method, Applications of viscosity.</p> <p><b>B) Physical Properties and Molecular Structure:</b></p> <p><b>I. Electrical Properties:</b></p> <p>(i) Polar and non-polar molecules. Dipole moment.  (ii) Induced polarization and orientation polarization. Clausius Mossotti equation (only qualitative treatment).  (iii) Measurement of dipole moment by temperature and refractivity methods.  (iv) Applications of dipole moment for the determination of molecular structure. i.e. percentage ionic character of covalent bonding, molecular geometry, cis-trans isomers, ortho, meta and para isomers of a disubstituted benzene.</p> <p><b>II. Magnetic Properties:</b></p> <p>(i) Paramagnetic and diamagnetic substances, origin of paramagnetism, diamagnetism, ferromagnetism and antiferromagnetism.  (ii) Volume, specific, mass and molar susceptibility. Relationship between molar magnetic susceptibility and magnetic moment.  (iii) Relationship between magnetic moment and number of unpaired electrons.  (iv) Gouy's balance method for determination of magnetic susceptibility.  (v) Application of magnetic moment in the determination of molecular structure.  (vi) Numerical</p> <p style="text-align: right;"><b>Periods: 14</b></p>
<p><b>*SEM:</b></p> <p>A) Create models for periodic table or periodic properties, or shape of orbitals, categorization of acids and bases on the basis of various theories, Compare applications of non-aqueous solvents.</p>	

