

Kasegaon Education Society's

Arts and Commerce College, Kasegaon

DEPARTMENT OF CHEMISTRY

1. INTRODUCTION –

The department of chemistry is involved in both teaching and research. In teaching the Department is training the next generation students and an enable them to lead the nation in chemistry. The training received by the students enabled them to achieve major position in industry, research and academic institution.

The Department of Chemistry was established in 2020 with 61 students.

2. CHEMISTRY DEPARTMENT GOALS AND OBJECTIVES ---

1. Graduates from our program will possess a strong foundational knowledge of modern inorganic, organic, analytical and physical chemistry.
2. Students will demonstrate scientific understanding of the structure of matter and of its physical and chemical transformations.
3. Students will apply appropriate theories to predict chemical structure, reactivity and physical properties.

4. Graduates from our program will be proficient in applying modern laboratory methods and technological tools to the studies of chemical system.
5. Students will apply standard laboratory techniques to carry out qualitative and quantitative analysis, chemical synthesis, characterisation of compounds and measurement of chemical reactivity.
6. Students will learn the theoretical bases, operating principles and an experimental uses of scientific instrumentation and software application and will apply these technologies appropriately to study chemical system.
7. Graduate from our program will be skilled in the methods of scientific investigation.
8. Students will formulate testable hypotheses and design appropriately controlled experiments to test those hypotheses.
9. Graduates from our program will be able to think as chemists, critically evaluating scientific information and solving scientific problems.
10. Students will engage in problem - solving activities that require analysis, synthesis and evaluation as a means of testing and strengthening their developing knowledge.
11. Students will access, search, evaluate and critique the primary scientific literature.

12. Graduates from our program will be able to effectively communicate scientific information.
13. Students will organize, evaluate, summarize and communicate experimental data and scientific concepts in both written and oral formats.

3. List of Teaching Faculty

2020-21

Sr. No.	Name of faculty	Qualification	Designation	Age	Experience (Years)
1	Smt. P. A. Shaha	M.Sc. B.Ed	Assistant Professor	36	2

2021-22

Sr. No.	Name of faculty	Qualification	Designation	Age	Experience (Years)
1	Smt. P. A. Shaha	M.Sc. B.Ed	Assistant Professor	36	2
2	Miss. R. R. Nalawade	M.Sc.	Assistant Professor	23	1

2022-23

Sr. No.	Name of faculty	Qualification	Designation	Age	Experience (Years)
1	Smt. P. A. Shaha	M.Sc. B.Ed	Assistant Professor	36	2
2	Miss. R. R. Nalawade	M.Sc.	Assistant Professor	23	1
3	Miss. B. G. Shaikh	M.Sc.	Assistant Professor	22	-

2023-24

Sr. No.	Name of faculty	Qualification	Designation	Age	Experience (Years)
1	Smt. P. A. Shaha	M.Sc. B.Ed	Assistant Professor	36	2
2	Miss. R. R. Nalawade	M.Sc.	Assistant Professor	23	1
3	Miss. B. G. Shaikh	M.Sc.	Assistant Professor	22	-

4. List of non teaching faculty 2020-2024

Sr. No.	Name Of faculty	Qualification	Designation	Age	Experience (Years)
1	Shri. P.S.Patil	B.B.A	Lab. Assist.	38	-
2	Shri S.D. Patil	B.Sc	Lab. Attend.	24	-

5. Allocation of Work load

Sr. No.	Name of Faculty	Class	Periods		Total	Excess Workload
			Theory	Practical		
1.	Smt.P.A.Shaha	B.Sc-I	02	04	06	-
		B.Sc-II	02	03	05	-
		B.Sc-III	07	04	11	-
Total Work load per week					22	-

Sr. No.	Name of Faculty	Class	Periods		Total	Excess Workload
			Theory	Practical		
2.	Miss.R.R. Nalawade	B. Sc. -I	02	04	06	-
		B. Sc. -II	02	03	05	-
		B. Sc. -III	07	04	11	-
Total Work load per week					22	-

Sr. No.	Name of Faculty	Class	Periods		Total	Excess Workload
			Theory	Practical		
3.	Miss. B. G. Shaikh	B. Sc. -I	01	04	05	-
		B. Sc. -II	02	02	04	-
		B. Sc. -III	06	04	10	-
Total Work load per week					19	-

- 1) Smt. Pallavi AtulKumar Shaha - 22 Lectures.
- 2) Miss. Radhika Ramchandra Nalawade - 22 Lectures.
- 3) Miss. Banu Gudubai Shaikh – 19 Lectures

6. Syllabus Distribution

Sr. No.	Class	Paper No. & Section	Sem. No.	Name of Teacher	Syllabus
1	B. Sc. - I	Paper- I & II	I	Smt. P. A. Shaha	Organic Chemistry
		Paper- I & II	I	Miss. R. R. Nalawade	Inorganic Chemistry
		Paper- III & IV	II	Miss. B. G. Shaikh	Physical Chemistry
		Paper- III & IV	II	Smt. P. A. Shaha	Analytical Chemistry
2	B. Sc. - II	Paper- V	III	Miss. B. G. Shaikh	Physical Chemistry
		Paper- VI	III	Smt. P. A. Shaha	Analytical Chemistry
		Paper- VII	IV	Miss. R. R. Nalawade	Inorganic Chemistry
		Paper- VIII	IV	Smt. P. A. Shaha	Organic Chemistry
		Paper-IX	V	Miss. R. R. Nalawade	Inorganic Chemistry
		Paper- X	V	Smt. P. A. Shaha	Organic Chemistry
		Paper- XI	V	Miss. B. G. Shaikh	Physical Chemistry
		Paper- XII	V	Smt. P. A. Shaha	Analytical Chemistry

3	B. Sc. - III				
		Paper- XIII	VI	Miss. R. R. Nalawade	Inorganic Chemistry
		Paper- XIV	VI	Smt. P. A. Shaha	Organic Chemistry
		Paper- XV	VI	Miss. B. G. Shaikh	Physical Chemistry
		Paper- XVI	VI	Miss. B. G. Shaikh	Analytical Chemistry

7. Teaching Plan and Methods (ICT, etc)

Department of Chemistry uses following teaching methods

❖ Lecture method-

This method is most commonly used in colleges which are useful to teach information, History etc. of the subject. In this teaching method, students assume the role of teacher and teach their peers. Students who teach others as a group or as individuals must study and understand a topic well enough to teach it to their peers. By having students participate in the teaching process, they gain self-confidence and strengthen their speaking and communication skills.

❖ Demonstration method

Demonstrating is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual evidence and associated reasoning. Demonstrations are similar to written storytelling and examples in that they allow students to personally relate to the presented information. Memorization of a list of facts is a detached and impersonal experience, whereas the same information, conveyed through demonstration, becomes personally relatable. Demonstrations help to raise student interest and reinforce memory retention because they provide

connections between facts and real-world applications of those facts. Lectures, on the other hand, are often geared more towards factual presentation than connective learning.

❖ **Seminar method**

In this method student present their topic under the guidance of their teachers. These seminars are helpful to the students in seeking more defensible solutions before the audience and for getting more knowledge about that particular topic.

❖ **Group Discussion**

These are planned to ensure development of creative and critical abilities of the students. Under this method students are supplied the particular topic in advance. A few students are selected to initiate discussion about the topic. These students are expected to answer a question about the topic raised by other students.

❖ **Computer Assisted Method:**

Under this method, the students are provided with certain topics which they are supposed to search engines like Google, Chrome, etc.

❖ **ICT Based Teaching:**

In this method, the teachers prepare PPT presentations, Models presentations and Charts to elaborate the major points in the syllabus.

❖ **Laboratory method**

In this method students do the experiments under the guidance of the teacher. By this method students get scientific awareness, motivation towards self - study, self -confidence etc.

For making teaching, learning process more effective by above method our department use teaching aids such as charts, models, OHP, LCD etc.

8. Theory Time Table For year 2023-24

Period No	Time	Class	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	08.15am	B.Sc-I	P.A.S					
	To	B.Sc-II			B.G.S		P.A.S	
	9.03am	B.Sc-III	R.R.N	P.A.S			B.G.S	B.G.S
2	9.03am	B.Sc-I				R.R.N		
	To	B.Sc-II						R.R.N
	09.51am	B.Sc-III	R.R.N	P.A.S	P.A.S	B.G.S	B.G.S	B.G.S
S H O R T R E C E S S								
3	10.06am	B.Sc-I		P.A.S			R.R.N	R.R.N
	To	B.Sc-II				P.A.S		
	10.54am	B.Sc-III	B.G.S	B.G.S	R.R.N	R.R.N		
4	10.54am	B.Sc-I						
	To	B.Sc-II	B.G.S	B.G.S				
	11.42am	B.Sc-III	P.A.S	R.R.N	R.R.N	P.A.S	P.A.S	P.A.S

9. Practical Time Table For the year 2023-24

Class	Time	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
B. Sc-I	12.15 To 3.30				P.A.S/ R.R.N/ B.G.S		
B. Sc-II	12.15 To 3.30	P.A.S/R.R.N/ B.G.S	P.A.S/ R.R.N/ B.G.S				
B. Sc-III	12.15 To 4.10	R.R.N	P.A.S	P.A.S	B.G.S	R.R.N	B.G.S

10. Unit test and terminal Examination

There are two unit test per year per paper. one unit test is conducted in the first term and second in the second term. each unit test of 25 marks. the unit test are compulsory for all students. record of these unit test is separately maintained .

Terminal Examination - College conducts terminal examination of 50 marks of each paper at the end of first term. our department maintain this examination also. Shivaji University has introduced semistar pattern for B.Sc-I ,II during last year hence during this acedamic year terminal examination of B.Sc-III is only conducted. Time table of this terminal examination is as below.

11. Course offered: B. Sc Chemistry

12. Built up area with map of Department:

Map of the department with dimensions is separately attached . Total carpet area of the department = **208.85 sq. meter**

13. List of Instruments

Sr. No.	Instruments Name	Dealers Name	Date of Purchase	Quantity	Amount
1	Conductometer	Samarth Trading	Aug 2021	2	
2	Polarimeter				
3	Abbe's Refractometer				
4	Potentiometer				
5	Magnetic stirrer with hot plate				
6	Suction pump				
7	Chromatographic jar				

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Sr.No.	Name of chemical	Company	Unit	Quantity
1	Ferrous ammonium sulphate	Loba	500 gm	1
2	Barium sulphate	Loba	500 gm	1
3	Methyl red indicator powder	Loba	100 gm	1
4	Ammonium sulphate	Loba	500gm	1
5	Ammonium oxalate	Loba	500gm	1
6	Zinc nitrate	Loba	500gm	1
7	Cadmium chloride	Loba	250gm	1
8	Cadmium nitrate	Loba	250gm	1
9	Chromium chloride	Loba	250gm	1
10	Manganese sulphate	Loba	500gm	1
11	Manganese chloride	Loba	500gm	1
12	Aluminium sulphate	Loba	500gm	1
13	Zinc carbonate	Loba	500gm	2
14	Magnesium Sulphate	Loba	500gm	2
15	Magnesium carbonate	Loba	500gm	2
16	Ammonium nitrate	Loba	500gm	2
17	Ethyl benzoate	Loba	500gm	1
18	Iodine	Loba	500ml	1
19	Potassium Chloride	Loba	500gm	1
20	Phthalic anhydride	Loba	500gm	2
21	Urea	Loba	500gm	2
22	Benzamide	Loba	500gm	2
23	Benzene	Loba	500ml	2
24	Toluene	Loba	500ml	1
25	Xylene	Loba	500ml	1
26	Succinic acid	Loba	500gm	1
27	Phthalic acid	Loba	500gm	1
28	Salicylic acid	Loba	500gm	1
29	Aspirin	Loba	500gm	1
30	Alpha-naphthol	Loba	500gm	1
31	O-nitrophenol	Loba	500gm	1
32	P-nitrophenol	Loba	500gm	1
33	o-nitroaniline	Loba	500gm	1
34	p-nitroaniline	Loba	500gm	1
35	m-nitroaniline	Loba	500gm	1
36	Diphenyl amine	Loba	250gm	1
37	Carbon tetrachloride	Loba	500ml	5
38	Naphthalene	Loba	500gm	1
39	Anthracene	Loba	250gm	1

40	Acetophenone	Loba	500ml	1
41	Ethyl methyl ketone	Loba	500ml	1
42	Nitrobenzene	Loba	500ml	2
43	Clay pipe triangle	Loba	----	30
44	Rubber pipe for condenser	Loba	----	100 feet
45	Whatmann filter paper No.40	Loba	----	2 packets
46	Digital conductometer with conductivity cell having cell const (1)	Equiptronics	-----	1
47	Viscometer	Borosil	----	6
48	Refractometer Abbes	Rajdhani	----	1
49	Digital Polarometer	Equiptronics	----	1
50	TLC set		-----	1
51	Potassium per sulphate	Loba	500 gm	1
52	Calcium carbonate	Loba	<u>500 gm</u>	2
<u>53</u>	Triethanolamine	Loba	<u>500 ml</u>	1
<u>54</u>	Silica crucible for gravimetry	24
55	Desicator glass	Borosil		6
56	Barium nitrate	Loba	500gm	1
57	Nickel nitrate	Loba	500gm	1
58	Potassium chloride	Loba	500gm	2
59	Watchglass	borosilicate		12
60	Specific gravity bottles for refractometry			12
61	Barium chloride	Loba	500gm	1
62	Aluminon	Loba	250gm	1
63	Alizarin	Loba	250gm	1
64	Alpha nitroso beta naphthol	Loba	250gm	1
65	Dimethyl glyoxime	Loba	250gm	1
66	Benzidine	loba	250ml	1
67	Picric acid	Loba	500gm	1
68	Nessler's reagent	Loba	250 gm	1
69	Magneson-I reagent	Loba	250gm	1
70	Mercuric chloride	Loba	250gm	1
71	Ammonium thiocyanate	Loba	250gm	1
72	Potassium Ferrocyanide	Loba	250 gm	1
73	Dithiozone	Loba	250gm	1
74	Cupron	Loba	250gm	1
75	Ammonium sulphocyanide	Loba	250gm	1
76	Stannous chloride	Loba	250gm	1
77	Rochelle salt(sodium potassium tartarate)	Loba	250gm	1

14. Student Progression

Sr.No.	Year	Class	Students Number
1	2020-2021	B.Sc I	61
2	2021-2022	B.Sc.I	45
		B.Sc.II	63
3	2022-2023	B.Sc.I	29
		B.Sc.II	38
		B.Sc.III	36
4	2023-2024	B.Sc.I	69
		B.Sc.II	27
		B.Sc.III	23

15. Student Placement

Sr.No.	Name of the students	Name of the company	Post
1	Tate Pranali Mohan	Mahindra and Mahindra	Assistant
2	Shingare Aishwarya Babaso	Mahindra and Mahindra	Assistant
3	Waghmode Ankita Vikas	Mahindra and Mahindra	Assistant
4	Vhanmane Mahesh Khandu	Airtel	Area manager
5	Mane Darshan Tanaji	ICICI Bank	Clark
6	Patil Harshvardhan Maruti	Kirana store	Owner
7	Patil Swayam Vikas	Shubham automobiles	Owner

16. Department Activities

Sr. No.	Year	Name of the event	Guest	Students presenty
1	2020 - 2021	Poster Presentation	Dr.C.S.Magdum	12
2		Medicinal plant exhibition	Dr.Aruna Patil	6
3	2021 -2022	Quiz compitition	Online	30
4		Medicinal plant exhibition		10
5	2022 -2023	Study tour	NIO Goa	40
6		Digital spectroscopy	Site visit	10
7		Science bulletin	HOD	4
8	2023 -2024	Workshop on soap making	Dr. T.D.Patil - Dange Smt. S.J.Shinde	33

17. Research Activities

1. Participation in International Conference on Recent Trends in Pure and Applied Science (ICRTPAS – 2023) dated on 24th and 25th March 2023
2. Teachers Training Workshop On Newly Changed Syllabus of B.Sc II (Sem III and IV) dated on 18th Semptember 2023

18. Personal Profiles of Faculty Members

Kasegaon Education Society's

Arts, Science and Commerce College, Kasegaon

DEPARTMENT OF CHEMISTRY

Teacher's profile

Name of the Teacher: Smt. Pallavi Atulkumar Shaha

General Information

- 1) Name of the teacher: Smt. Pallavi Atulkumar Shaha
- 2) Designation: Assistant Professor
- 3) College: Arts and Commerce College, Kasegaon.
- 4) Department: Chemistry
- 5) Date of birth: 05/12/1986
- 6) Date of appointment: 01/01/2021
- 7) Total teaching experience: UG: 3
- 8) Permanent address: A/P. Kasegaon, Tal. Walwa, Dist. Sangli. Pincode – 415404
- 9) Mobile number: 9823189433, 9730032632
- 10) Email: pallavishaha2016@gmail.com

Academic Qualifications

Sr. No	Qualification	University	Subject	Year	Grade /Class
1	B.Ed	Shivaji University	Science and Maths	2015	First
2	M.Sc	Shivaji University	Organic Chemistry	2018	First
3	B.Sc	Shivaji University	Chemistry	2007	First
4	HSC	Kolhapur Board	Physics, Chemistry, Biology	2004	First
5	SSC	Kolhapur Board	English, Maths, Science	2002	First

Participation in College Committee

Sr.No.	Name of the committee	Designation
1	Internal Quality Assurance Cell (IQAC)	Teacher representative

2	Internal Women Complaints Committee	Member
3	NSS Committee	Member
4	Cultural Department and youth festival	Member
5	Admission Committee and Prospectus	Member
6	Lead College Committee	Member
7	Staff Welfare Academy	Member
8	Scholarship Committee	Member
9	Womens Association	Member
10	Science and Natures Club	Coordinator
11	Alumini and Parents Association	Member
12	Class – B.Sc.III (Chemistry)	Class teacher
13	Hostel Comittee	Coordinator

Signature

Name of the teacher: Miss. Radhika Ramchandra Nalawade

General Information

- 1) Name of the teacher: Miss. Radhika Ramchandra Nalawade
- 2) Designation: Assistant Professor
- 3) College: Arts and Commerce College, Kasegaon.
- 4) Department: Chemistry
- 5) Date of birth: 07/05/1999
- 6) Date of appointment: 08/11/2021
- 7) Total teaching experience: UG: 2
- 8) Permanent address: A/P. 32 Shirala , Tal. Shirala , Dist. Sangli. Pincode – 415408
- 9) Mobile number: 9096524857
- 10) Email: radhikanalawade1@gmail.com

Academic Qualifications

Sr. No	Qualificatio n	University	Subject	Year	Grade /Class
1	M.Sc	Shivaji University	Organic Chemistry	2021	First
2	B.Sc	Shivaji University	Chemistry	2019	First
3	HSC	Kolhapur Board	Physics, Chemistry, Maths	2016	First
4	SSC	Kolhapur Board	English, Maths, Science	2014	First

Participation in College Committee

Sr.No.	Name of the committee	Designation
1	Intuitional Avishkar Expert Committee	Member
2	Research and Development Cell	Member
3	Library Committee	Member
4	Study Tour Committee	Member
5	Feed Back Committee	Member
6	Career Katta	Member
7	Discipline and Code of Conduct Committee	Member
8	Placement Cell	Member
9	Science and Natures Club	Member

Signature

Arts and Commerce College, Kasegaon

DEPARTMENT OF CHEMISTRY

Teacher's profile

A) General Information

- 1) Name of the teacher: Miss. Banu Gudubhai Shaikh.
- 2) Designation: Assistant Professor
- 3) College: Arts and Commerce College, Kasegaon.
- 4) Department: Chemistry
- 5) Date of birth: 21/02/1998.
- 6) Date of appointment: 01/09/2022
- 7) Total teaching experience: UG: 1
- 8) Permanent address: A/P. Nerle, Tal. Walwa, Dist. Sangli. Pincode – 415406
- 9) Mobile number: 9172248568
- 10) Email: shaikhbanu601@gmail.com

B) Academic Qualifications

Sr. No	Qualification	University	Subject	Year	Grade /Class
1	M.Sc	Shivaji University	Physical Chemistry	2022	First
2	B.Sc	Shivaji University	Chemistry	2019	First
3	HSC	Kolhapur Board	Physics, Chemistry, Biology	2016	First
4	SSC	Kolhapur Board	English, Maths, Science	2014	First

C) Participation in College Committee

Sr.No.	Name of the committee	Designation
1	Internal Woman Complaints Committee(ICC)	Member
2	N.S.S Committee	Member
3	Cultural Development and Youth Festival Committee	Member
4	Essay Elocution and other Competition Committee	Member
5	NIRF and RUSSA Committee	Member
6	Science and Natures Club	Member

Signature

