

## DEPARTMENT OF CHEMISTRY-A PROFILE



The Chemistry department of the college was established in the year **1968**. For the first two years, department functioned in the laboratories of the Nutan Vidyalaya, which is a sister concern of our institution. A department was then shifted to Hall No. 2 of the present main building of the college, which was temporarily renovated to accommodate departmental laboratories. Department was finally shifted to the present place in **1976**.

## LABORATORIES

Department is now housed in a spacious building which was constructed under U.G.C. assistance. Department sincerely want to thank U.G.C. for its generous contribution in the construction of laboratory buildings. Departmental building comprises two laboratories, a preparation room, a store room, L.P.G. gas stored room, cabin for Head of the department, senior staff room, junior staff room, etc.



Dimensions of our laboratories i.e. 40 X 22, provide sufficient moving space to 24 students working in a single practical batch. Our laboratories are well furnished and have all the physical facilities such as Inverter, running water, L.P.G. line, exhaust fans etc. Department has given serious consideration for its safety and thus had made provision for two fire extinguishers to meet any emergency. Department has a first aid box, which is used for providing first aid in case of minor injuries.

## CHEMICAL EQUIPMENTS

Department has ample stock of laboratory chemicals, glassware and other equipment required for U.G. level courses. Department has a special store room for stocking chemicals, glassware and equipments. Department rightfully boasted of having multiple copies of all the analytical instruments required for physical chemistry practical. Department is really grateful to U.G.C. for providing financial assistance for the procurement of laboratory equipment and instruments. The infrastructure of the department is sufficient to carry out minor research projects. Beside equipments department has a stock of few charts, models, video cassettes etc. A separate list of major equipments, instruments, charts, Video cassettes is given.

Department makes its routine purchases of chemicals, glassware and equipments from the budget allowed to the department every year. A part of the departmental budget is utilized for the maintenance and repairs of laboratory instruments. Department strictly adheres to the government norms regarding purchases such as calling quotations, making comparative statements of quotations etc.

## STAFF

Department was established in 1968, under the leadership of Dr. R.M. Kharwadkar, who was the founder head of the unit. *Department had on its role three full time teachers, till 2001-2002.* In the current academic year, department has two full time teachers, who is assisted by one part time teacher appointed on clock hour basis. A list of faculty is given separately.

Department is manned by a full time laboratory assistant who is assisted by two laboratory attendants. Laboratory assistant is assigned the work of maintenance of stock registers, yearly stock verification, preparation work of practical's, etc. A list of staff is given separately.

## LIBRARY

Department have its own library unit. The books in our subjects are stocked in the racks of central library. The total number of chemistry titles in the central library is 1205, which includes text and reference books. The reference library of the department is fairly rich which includes volumes of classic titles, such as

- Chemistry for degree students B.Sc. I<sup>st</sup>, II<sup>nd</sup>, III<sup>rd</sup> by R.L. Madan
- Organic chemistry by Bahl and Bahl
- Principle of Inorganic Chemistry by Puri, Sharma & Kalia.
- Essential of physical chemistry by Bahl, Bahl and Tuli

- Organic Spectroscopy by P.S. Kalsi
- Organic reactions by Adams
- Organic chemistry by Gilman
- Inorganic chemistry by Remy

The library of chemistry books includes books in all the branches of chemistry such as organic, physical, analytical, Industrial etc. Enrichment of our departmental library could be possible due to U.G.C. financial assistance in different plan periods.

Besides text and reference books, department has subscribed for research journals such as

- *Journal of Indian chemical Society*
- *Indian journal of chemistry*

Library has bound volumes of back numbers for the above journals. Presently, we have subscribed for Indian journal of chemistry.

Library budget allotted to the department is utilized for the procurement of books.

## ACTIVITIES

Since department runs only UG level courses, minor activity of the department is teaching, obviously research contribution of the department is marginal. To supplement classroom teaching activity, department actively participate in organizing following co-curricular activities.

- Organization of Guest lectures
- Subject seminar by students
- Wall bulletin by students.

**B.Sc. III<sup>rd</sup> year students presented Seminars of Chemistry.**

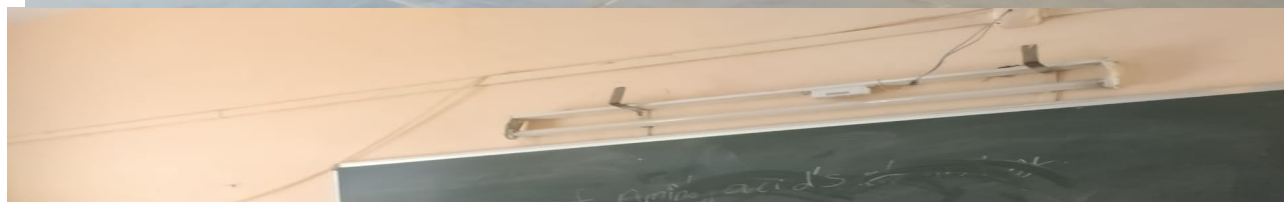
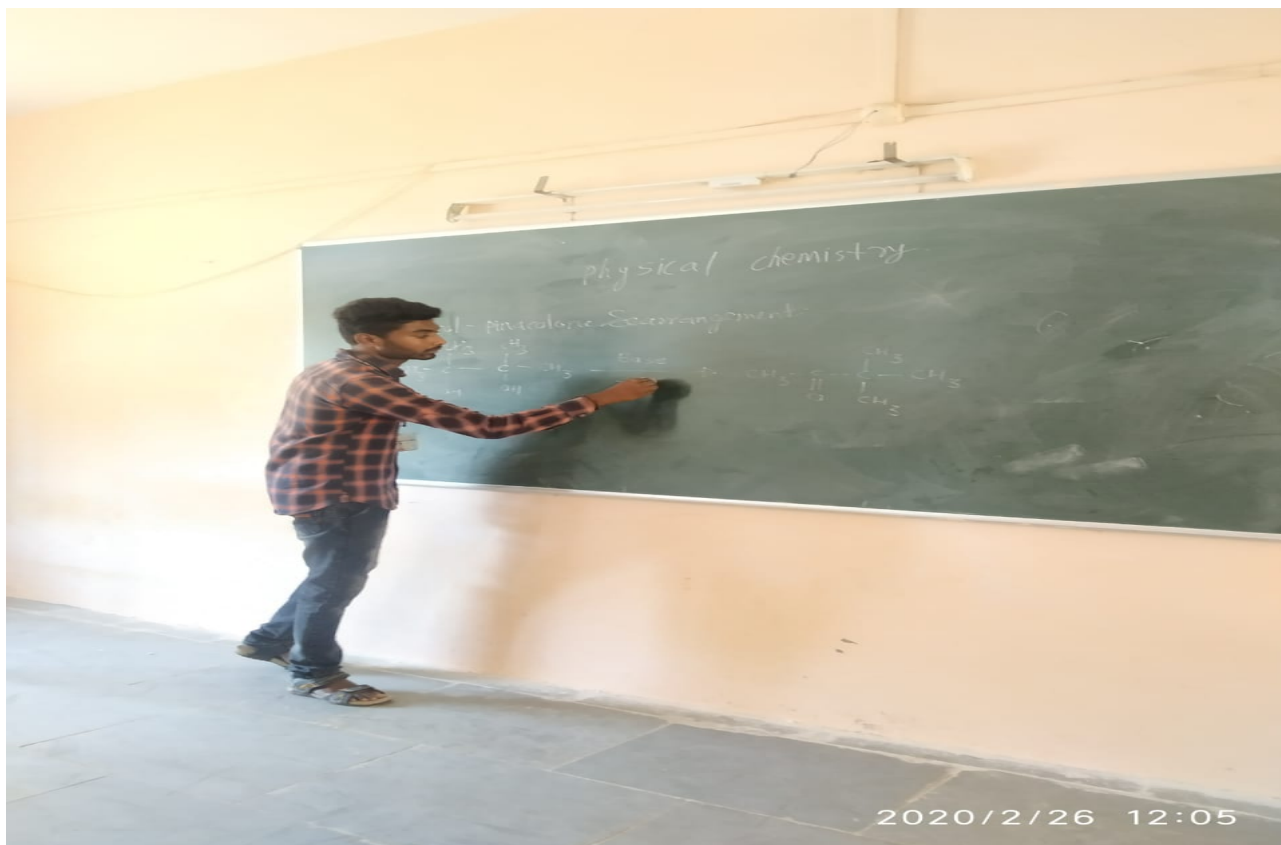








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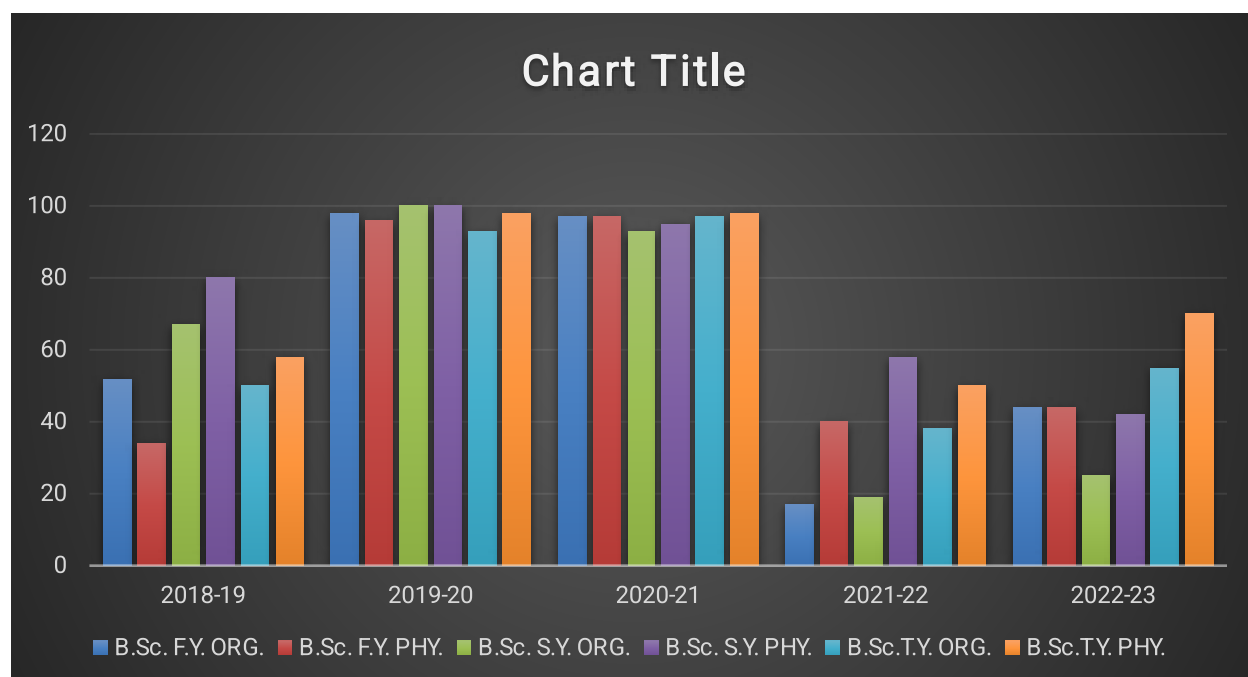
## **WORKING**

The working of the department is participatory involving all the teachers. All the teachers in the department plan their teaching activity for the academic year, in the prescribed format and submit it to principal through head of department. All the teachers in the department maintain academic diaries regularly in which details regarding periods engaged by them, such as date, unit taught are recorded. Periodic informal meetings of teachers are arranged in which Head of the department monitors the overall teaching activities of the department. At the end of each academic term, teachers are required to submit syllabus completion report. All the teachers submit self-appraisal report to the principal through head of the department, at the closing date second term

## RESULT

Department has fairly good tradition of results. Our B.Sc. final results are usually better than university average. As the measure to encourage meritorious students, department has sponsored a cash prize to the B.Sc. third year students securing highest marks in the subject. Department has maintained record of class wise results for all the papers in the subject.

Year	B.Sc. F.Y.		B.Sc. S.Y.		B.Sc.T.Y.	
	ORG. (%)	PHY. (%)	ORG. (%)	PHY. (%)	ORG. (%)	PHY. (%)
2018-19	52	34	67	80	50	58
2019-20	98	96	100	100	93	98
2020-21	97	97	93	95	97	98
2021-22	17	40	19	58	38	50
2022-23	44	44	25	42	55	70



NUTAN MAHAVYDYALAYA, SAILU DIST.PARBHANI

DEPARTMENT OF CHEMISTRY

List of Equipments under UGC XI plan

Sr. No.	Name of the Item	Qt	Name of the firm	Total Cost Rs.	Justification/Utility
<b>Jamuna Agencies</b>					
1	Fumehood S.S. Top	01	-----//-----	90,000/-	For exhausting hazardus vapour
2	Exhaust Duct	02	-----//-----	18506/-	-----//-----
<b>Jamuna Agencies</b>					
3	Centrifuge Machine	01	-----//-----	13000/-	For
4	Thermometers 110°C	25	-----//-----	8175/-	Students Pratical
5	Thermometers 360 °C	25	-----//-----	8575/-	-----//-----
6	Thermometers 50 °C	01	-----//-----	349/-	
7	Thermometers Max minimum	02	-----//-----	698/-	-----//-----
8	Diagram Charts	25	-----//-----	5250/-	For Teacher
9	Scientist portrait	08	-----//-----	2200/-	Laboratory
10	Lab Safety Charts	12	-----//-----	550/-	-----//-----
11	Blender Mixture	01	-----//-----	4300/-	Lab Use
<b>Jamuna Agencies</b>					
12	Glass door Almariah 75X 19	01	-----//-----	10570/-	For keeping glass aparatus
13	Steel Book cases	02	-----//-----	15000/-	Lab Use
14	Exhaust Fans	08	-----//-----	21600/-	For exhausting hazardus vapour
<b>Jamuna Agencies</b>					
15	Digital Potentiometer	02	-----//-----	18600/-	Students practicals
16	Digital Polorimeter	01	-----//-----	19800/-	-----//-----
17	Ph Meters	01	-----//-----	9100/-	-----//-----
18	Digital M.P. Apparatus	01	-----//-----	25600/-	-----//-----
19	Digital photo	01	-----//-----	13200/-	-----//-----

	Electric colorimeter				
20	Digital Balances	02	-----//-----	15660/-	-----//-----
21	Vaccum pump	01	-----//-----	6870/-	-----//-----
22	Iodin Flasks	12	-----//-----	1980/-	-----//-----
23	Filtering Flasks 250 ml	03	-----//-----	852/-	-----//-----
24	Seperating Funnels	03	-----//-----	1062/-	-----//-----
25	Separating Funnels	01	-----//-----	985/-	-----//-----
26	Atomic Models	01	-----//-----	1690/-	For Teachers Use
<b>The Matoshri Electricals</b>					
27	Invertor+ Battery	2+2	-----//-----	44500/-	Lab use
28	Fitting Charges	-	-	5076/-	-
<b>Babaji traders</b>					
29	Glass Stopers	100	-----//-----	800/-	Students Practicals
30	Eudiometers	10	-----//-----	1400/-	-----//-----
31	Beckmann's Thermometer	02	-----//-----	3850/-	-----//-----
32	Specimen Jar	01	-----//-----	1750/-	-----//-----
33	Specimen Jar Borosil	01	-----//-----	4185/-	-----//-----
<b>Babaji traders</b>					
34	Lab Oven (125 Ur)	01	-----//-----	49400/-	Lab use for practicals
35	Automatic Pipette Washer	01	-----//-----	10600/-	-----//-----
36	Stop Watches	10	-----//-----	9200/-	-----//-----
37	Timers	10	-----//-----	7200/-	-----//-----
38	Test tube Baskets	10	-----//-----	800/-	-----//-----
39	Test Tube Baskets	02	-----//-----	224/-	-----//-----
40	Crucibles	10	-----//-----	3600/-	-----//-----
41	Siliaca Crucibles	05	-----//-----	2050/-	-----//-----
42	Petridishes	25	-----//-----	2375/-	-----//-----
43	Hot air Dryer	02	-----//-----	1900/-	-----//-----
44	Enamel Tray 10X 12	02	-----//-----	640/-	-----//-----
45	Enamel Tray 12X 14	02	-----//-----	1120	-----//-----
46	Lab white tiles	100	-----//-----	2500/-	-----//-----
47	Wire Guaze	02	-----//-----	1035/-	-----//-----
48	Viscometers	20	-----//-----	900/-	-----//-----
<b>Babaji Traders</b>					
49	Voltmeter	04	-----//-----	2340/-	-----//-----
50	Potentiometer	01	-----//-----	19500/-	-----//-----
51	Conductivity Meter	01	-----//-----	31500/-	-----//-----
52	Balance	01	-----//-----	12900/-	-----//-----
53	Pentype PH meter	01	-----//-----	2250/-	-----//-----

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### List of charts:-

- ❖ Beckmann's freezing point apparatus
- ❖ Oswald- Walker method of measuring of relative lowering of vapour pressure.
- ❖ Kjeldahl method
- ❖ Shapes of atomic orbital's
- ❖ Atomic and ionic radii of elements
- ❖ Emission spectra of hydrogen atom
- ❖ Crystal structure types
- ❖ Formation of molecular orbital's
- ❖ Ionization potential curve
- ❖ Down's cell
- ❖ Castner process
- ❖ Landsberger-walker apparatus.

### Video Cassettes:-

- ❖ Bohr's atomic model

- ❖ Atomic number in 3D
- ❖ Bragg's law
- ❖ Lattices structure
- ❖ Solid state
- ❖ Venderwaal's equation for gaseous state



## LIST OF TEACHING STAFF

### Senior college

Sr. No.	Name	Designation
1	Dr. K. S. Niralwad	Head of the department
2	Mr. P. R. Pande	Assistant Professor
3	Mr. M.D. Limbhore	Lecturer on Clock hours basis

## LIST OF TEACHING STAFF

### Junior college

Sr. No.	Name	Designation
1	Mr. A. S. Akat	Teacher
2	Mr. V. P. Kharat	Teacher

## ADMINISTRATIVE AND TECHNICAL STAFF

Sr. No.	Name	Designation
1	Shri. V. B. Rathod	Laboratory Assistant
2	Shri. B. R. Chintamani	Laboratory Attendant
3	Shri. L. B. Sakhre	Laboratory Attendant