

**2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences**

**Department of Botany**

**Experiential learning:**

- 1) Regular practical course** provides hands on training in the subject.
- 2) Learning through case studies** give opportunity for data collection, analysis of collected data, interpretation and conclusion there by enhancing their critical thinking abilities.

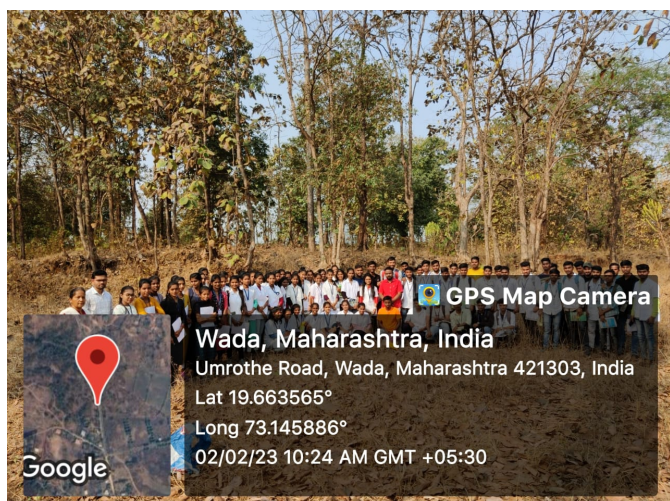


(Visit of T. Y. B. Sc. Botany students To MothaTalav, Wada as a case study of degraded wetlands)

- 3) Plant of the day activity** and **Green time activity** give them opportunity to appreciate beauty and importance of mother nature so also enhances their observational skills.

**Participative learning:**

- 1) Informal group discussion** during active classes, query raising & answering among themselves and with teachers enhances peer learning.
- 2) Practical performed in groups** increases their team spirit, cooperative abilities and enhances healthy competition.
- 3) Field visits** for habitat studies enhances their observational and interpretation skills.



(Umrotha Road Forest Trail, a field visit with F. Y., S. Y. & T. Y. B. Sc. Botany Students)

**4) Presentation and their performance during exhibition** such as on National Science Day and Recipes on wild edible plants give them platform to express themselves that builds their confidence so also knowledge in other subjects.



(Exhibition of Plant Based Colours with F. Y., S. Y. & T. Y. B. Sc. Botany Students)

### **Problem solving methodologies**

Students are encouraged to solve problems in topics within their respective syllabus such as biostatistics, genetics, bioinformatics are used.

**Department of Physics.**

There are many concepts which are difficult to understand and which may require higher explanations in teaching learning methodologies. Instead of this, the experimental teaching learning methods are used in department of physics. The devices used for optical study are having many types such as lenses, prisms ,slits ,Biprism etc. In Mechanics measuring tools and equipment's are used which are Vernier callipers,Micrometre screw gauge, fly wheels, katers pendulum, telescope .In electronics learning ,number of electronics kits ,devices like voltmeter,ammeter,frequency meters, CRO ,function generators are used in model teaching also. it enhances to solve problems of students. The activity of Seminar for the students able to build confidence in students .The project work in electro spectra its participative learning given good output.

Sr. No.	Method of Course	Tolls used for learning
1	Use of Models and components in Electronics	PCB, Bread Boards, Capacitors, Diodes, Transistors, Electronic Circuits like Multivibraters, Timers
2	Devices used in Electronics	CRO, Function Generators, Frequency meters, Voltmeters, Ammeters.
3	Equipment's and Tools used in Mechanics	Katers Pendulum, Metal Bobs, Vernier callipers, Scales, Micrometre Screw Gauge, Fly Wheels.
4	Equipment's and Tools used in optics	Spectrometers, lenses, prisms like Calcite, Double Refracting Prisms, Slits, Bi-prisms.

## Department of Chemistry

TEACHING METHODOLOGIES (2022 -23)

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### Use of interactive teaching method.

Use of Ball-Stick Model and charts like periodic table.

### Experiential learning:

Use of ICT based teaching materials (PPTs) and students are encouraged to use internet to get acquainted with the e-Books & Software (Chem Draw) related to the chemistry.

Preparation of Notes and Question Bank.

Solving previous year question papers.

Extra sessions before appearing for University Examinations.

### Question- answers Sessions.

Asking students to prepare a topic in advance and explain to the whole class.

Conducting Seminars for TYBSC students, highlighting the good aspects and drawbacks.

Regular practical course provides hands-on training.

Special instructions and training for performing perfectly in Practical exam.

Organizing Guest lectures to enhance subject knowledge.

**Participative learning:**

Group discussions to enhance thought process with agreement to other participants to criticise and express own views.

Group Seminars to enhance interpretation skills and organizational ability.

Group for Chemistry Practical course to enhance team spirit, cooperative abilities and healthy competition.

Group for case studies to contribute in the data collection, analysis of collected data. interpretation and conclusion there by to enhance critical thinking abilities.

Industrial/Field visits to enhance observational skills.

Group for Quiz/Exhibitions on occasion of various important days like National Science Day to express and build confidence in other subjects also.

**Problem solving methodologies:**

Extra sessions on problem solving for respective subjects like physical chemistry.

Regular class teaching methods along with some innovative student centric methods have been used for FYBSC and TYBSC Chemistry students. These methods helped a lot of students forenhancing learning experience.

**Department of Mathematics**

**Participative learning:**

1) During active classes, informal group discussions and interactions between students and teachers facilitate peer learning.

2) Performing practical tasks in groups can enhance team spirit, cooperative abilities, and foster healthy competition among team members.

4) Presentation and performance during exhibitions, such as National Science Day, provide a platform for students to express themselves, building confidence and knowledge in other subjects.

**Problem solving methodologies**

Students are encouraged to solve problems in topics within their respective syllabus such as single and multivariable calculus, topology, and operation research.

**Department of Politics**

**Online Class Tests**

1) [https://docs.google.com/forms/d/1sSS2mp7DIQjDqAe\\_pslzNJ1j\\_s5EKAnEmt3vZ8V](https://docs.google.com/forms/d/1sSS2mp7DIQjDqAe_pslzNJ1j_s5EKAnEmt3vZ8V)

2) [https://docs.google.com/forms/d/1X\\_Wqhk1Ohk6X3A1y22zCDEEggiBDL0LU2UIFYXisiNg/edit](https://docs.google.com/forms/d/1X_Wqhk1Ohk6X3A1y22zCDEEggiBDL0LU2UIFYXisiNg/edit)

3) <https://docs.google.com/forms/d/19HNPtEXSCmdXveZTKZp9g3NW-3KxfPQyPyr3Skn1dE/edit#responses>