

Date:- 21/06/2018

To,
The Principal,
Pravara Medical Trust's,
Arts, Commerce and Science College,
Shevgaon.

**Subject: - Give the permission for "Instrument Handling" Course
Syllabus Framing Workshop.....**

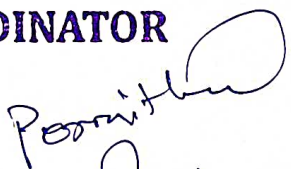

Respected Sir,

With the above mentioned subject our college Chemistry Department has been organize Academic year 2018-19 Certificate Course on "Instrument Handling" for Undergraduate students . This course duration is 45 hours with theory and practical so give the permission for said course syllabus framing workshop on 23th June 2018.


Syllabus framing committee as follows:

Sr. No.	Name of the Expert	Designation
1	Prof. Funde S.	Head of Department (Chairman)
2	Prof. Arvind Shinde	Expert Subject
3	Prof. Ganesh K. Kale	Expert Subject
4	Prof. Bedre V.	Member
5	Prof. Nalawade U.R.	Course Coordinator


Course Coordinator
COORDINATOR




HoD
HEAD
Department of Chemistry
PMT'S Arts Commerce & Science
College, Shevgaon, Dist. A'Nagar

Pravara Medical Trust's



Arts, Commerce and Science College, Shevgaon

Tal: Shevgaon Dist: Ahmednagar 414502 Maharashtra, India

Tel: 02429 223031 Fax: 02429 223399 Email: pmt.acsc@gmail.com



College Code: 1481

College ID: PU/AN/Sci/136/2013

Website: www.pmtacscollege.com

Date :-21/06/2018

To,
Prof. Ganesh K. Kale
Department of Chemistry,
Jijamata College of Science and Arts Bhende Bk,
Tal- Newasa, Dist – A.nagar

Subject: - About the Workshop of Syllabus Framing on “Instrument Handling” Certificate Course....

Respected Sir,

With the above mentioned subject, Chemistry Department has been organize Academic year 2018-19 Certificate Course on “Instrument Handling” for Undergraduate Students. This Course Duration is 45 hours with theory and practical.

You are nominated as a subject expert for the syllabus framing committee of the said course. Department of Chemistry organize a syllabus framing workshop of “Instrument Handling” 23rd June 2018..

We request you to attend the said workshop and help to frame syllabus.

Syllabus framing committee as follows:

Sr.No	Name of Person	Designation
1	Prof. Funde S.	Head of Department
2	Prof. Arvind Shinde	Subject Expert
3	Prof. Ganesh K. Kale	Subject Expert
5	Prof. Bedre V.	Member
6	Prof. Nalawade U.R.	Coordinator

Received
[Signature]



[Signature]
Principal
Arts, Comm. & Sci. College
Shevgaon, Dist Ahmednagar

Pravara Medical Trust's



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Date :-21/06/2018

To,
Prof. Arvind Shinde
Loknete Marutrao Ghule Patil Mahavidyalaya
Dahigaon-Ne
Tal-Shevgaon, Dist -A.nagar

Subject:- About the Workshop of Syllabus Framing on "Instrument Handling" Certificate Course....

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With the above mentioned subject, Chemistry Department has been organized Academic year 2018-19 Certificate Course on "Instrument Handling" for Undergraduate Students. This Course Duration is 45 hours with theory and practical.

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Received
Arvind



Principai

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Shevgaon, Dist Ahmednagar

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Date:- 23/06/2018

To,
Prof. Ganesh K. Kale
Department of Chemistry,
Jijamata College of Science and Arts N Bhende Bk,
Tal- Newasa, Dist – A.nagar

Subject- Thanking Letter....

Respected Sir,

With the above mentioned subject, our college has organized “Syllabus Framing Workshop of Certificate Course on Instrument Handling” for the under graduate students of Chemistry Department on 23rd June 2018. We are thankful to you have attended the said workshop and help us to frame syllabus.

We wish you best wishes for future.

Thanking You!



Principal
Arts, Comm. & Sci. College
Shevgaon, Dist. Ahmednagar

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Date: - 23/06/2018

To,
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Tal-Shevgaon, Dist -A.nagar

Subject- Thanking Letter....

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We wish you best wishes for future.

Thanking You!

Arvind



Pant
Principal
Arts, Comm. & Sci. College
Shevgaon, Dist Ahmednagar



Department of Chemistry

Pravara Medical Trust's,
Arts, Commerce & Science College, Shevgaon.
Tal-shevgaon Dist.-Ahmednagar 414502.

Certificate Course on Instrument Handling

2018-19

INDEX

❖ Instrument Handling Certificate Course Syllabus

Instrument	Topics
1) Conductometer	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation
2) Potentiometer	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation
3) Colorimeter	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation
4) Viscometer	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation
5) P ^H -Meter	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation
6) Turbidimeter	i) Principle ii) apparatus iii) setup iv) calibration v) working (explanation with the help of experiment) vi) calculation



Details:

1) Conductometer:

- Principle (electrical conductance-conc of ion, temperature, mobility of ion), electrode -(platinum),
- Apparatus(cell-electrolytic solution preparation ,magnetic stirrer),
- Setup-(connecting electrode to instrument)
- Calibration -(standardisation of instrument, preparation of standard solution)
- Working-(conductometric titration i) Acid-Base Titration, ii) Precipitation titration, iii) Redox (oxi-red) Titration.
- Calculation-Strength of an acid(equivalence point)

2) Potentiometer:

- Principle (potential difference between two electrode) ,
- electrode i) Reference electrode and indicator electrode -(hydrogen & silver chloride),
- Apparatus(cell-electrolytic solution preparation ,magnetic stirrer),
- Setup-(connecting electrode to instrument)
- Calibration -(standardisation of instrument, preparation of standard solution)
- Working-(Potentiometer titration i) Acid-Base Titration, ii) Precipitation titration, iii) Redox (oxi-red) Titration.
- Calculation-Strength of an acid(equivalence point)

3) Colorimeter:

- Principle (Lambert-Beer's law), setup, standardization,
- Apparatus-(cuvette) solution preparation,)
- Calibration -(Blank solution preparation standardisation of instrument,
- Working-(colorimetric titration i).
- Calculation-concentration of an acid. Plot of graph.

4) Viscometer:

- Principle (To calculate density, viscosity)



- Concept- shear stress, Poiseuille's law, viscous resistance.
- Setup, cleaning, Apparatus-(stand, viscometer) solution preparation,)
- Working: finding time taken by liquid to travel through capillary from point A to B in viscometer.

5) PH-meter:

- What is p^H -metry, Definition of p^H -meter, p^H measurement,
- p^H meter working principle,
- Part of pH mete, parts of combined electrode,
- operating procedure p^H meter,
- How to calibrate p^H meter, Type of p^H -meter,
- Type of p^H -meter based on portability,
- What p^H electrode, Construction of p^H electrode,
- How p^H electrode works, Types of p^H electrodes,
- Application of p^H meter,
- Advantages of p^H meter, limitation of p^H -meter,
- How to use p^H -meter(Working- suitable experiment),
- Application of p^H meter in water analysis.

6) Turbidimeter:

- Principle, instrumentation,
- setup, standardization, Measurement of turbidity of water sample,
- Apparatus-cuvettes,
- Calibration – (solution preparation, Working-Analysis of water sample)
- Calculation-concentration of suspended particle. Plot of graph.



Pravara Medical Trust's
Arts, Commerce and Science College, Shevgaon
Department of Chemistry
Organized
Syllabus Framing Workshop
on
"Instrument Handling Certificate Course"
2018-19
Report

Date: 23th June 2018

Organized by: Department of Chemistry

Participants: Subject Expert, Course Coordinator, member, HoD.

Objective: The workshop was conducted to design and finalize the syllabus for a Certificate Course on Instrumental Handling, ensuring a focus on hands-on skills and industry applicability for students.

Pravara Medical Trust's, Arts Commerce and Science College, Shevgaon Department of Chemistry organized Syllabus Framing Workshop on Instrument Handling Certificate Course. This workshop was organized on 23th June 2018 at 10:00 am. The welcome of this workshop subject expert by Prof. Funde S.R. and highlighted the need for practical knowledge in instrumentation to enhance employability. The workshop emphasized creating a curriculum aligned with industrial standards and modern advancements.

The subject expert Prof. Arvind Shinde and Prof. Ganesh Kale input on advanced instrumentation techniques. The detailed discussions were held on core instruments, including conductormeter, potentiometer, colorimeter, viscometer, pH meter, turbidimeter. Also discussions on duration of course is 45hrs/90 days and teaching methodology. The evaluation of students is based on practical and theory. The Course Coordinator Prof. Nalawade U.R. discuss and facilitated drafting of the syllabus. Prof. Bedre offered suggestions to make the course student-centric and feasible within institutional resources.

Syllabus Framing Committee as Follows:

Sr.No.	Name of the Expert	Designation
1	Prof. Sonali R.Funde S	Head of Department (Chairman)
2	Prof. Arvind Shinde	Expert Subject (Loknete Marutrao Ghule Patil Mahavidyaly Dahigaon –Ne ,Tal – Shevgaon , Dist – A.nagar)
3	Prof. Ganesh K. Kale	Expert Subject (Jijamata College of Science and arts Bhende Bk ,Tal – Shevgaon , Dist – A.nagar)
4	Prof. Bedre V.	Member
5	Prof. Udhav R.Nalawade	Course Coordinator

Outcomes:

A finalized, skill-oriented syllabus that covers essential instruments and their real-world applications. Adoption of hands-on training methodology to bridge the gap between academia and industry. Integration of periodic reviews and updates to keep the syllabus relevant.

Conclusion:

The workshop successfully designed a curriculum that focuses on developing technical competencies among students. It set a benchmark for future academic initiatives in the institution.

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COORDINATOR

Funde S
HEAD
Department of Chemistry
PMT'S Arts Commerce & Science
College, Shevgaon, Dist. A'Nagar

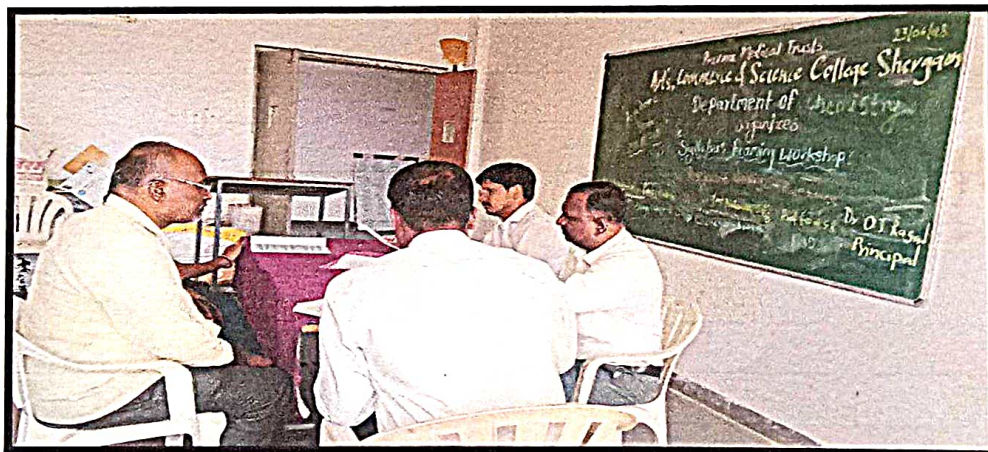
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Principal
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Pravara Medical Trust's
Arts, Commerce & Science College, Shevgaon
Tal-Shevgaon, Dist-Ahmednagar Pin-414502
Department of Chemistry

“Certificate Course on Instrument Handling”
2018-19
Photo

Syllabus Framing Workshop Photo




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Date 23/09/2018

To,

Prof. Ganesha K. Kale

Jijomata College of Science & Arts

Bhende B.K. Newasa.

Subject: Appreciation for Guidance and Contribution....

On behalf of our institute we like to extend our heartfelt gratitude for your presence and invaluable guidance during the **One-Day Workshop on Syllabus Framing for Certificate Course on Instrument Handling** organized by our college on 23/06/2018

Your expertise and insights were help in shaping a comprehensive syllabus for the certificate course. Your active involvement and thoughtful suggestions have greatly enhanced the quality and relevance of the curriculum, ensuring that it meets the evolving needs of learners and the professional world.

We deeply appreciate the time and effort you dedicated to this workshop and your commitment to advancing the cause of quality education. Your contribution has been a source of inspiration for our faculty and will undoubtedly benefit the students who will engage with this curriculum.

Once again, thank you for your valuable support and guidance. We look forward to collaborating with you in future to enhance academic excellence.

With warm regards,

Principal

**Arts, Comm. & Sci. College
Shevgaon, Dist. Ahmednagar**



Received
Arvind