

Minutes of the BoS in Chemistry Meeting held on 24-10-2020.

The meeting of the Board of Studies in Chemistry was convened on 24-10-2020 on Google Meet Platform (in view of on-going pandemic). The following members were present

Name of the Member	Designation
<u>DEPARTMENTAL FACULTY MEMBERS</u>	
Dr. Manish Hate	Vice-Principal and Head, Department of Chemistry
Dr. Jyoti Patwardhan	Former Head, Department of Chemistry
Dr. A.K. Mapari	Associate Professor, Department of Chemistry
Dr. Kamini Donde	Associate Professor, Department of Chemistry
Dr. Madhavi Badole	Assistant Professor, Department of Chemistry
Dr. Vaibhav Wagh	Assistant Professor, Department of Chemistry
Dr. Vijaykumar Chavan	Assistant Professor, Department of Chemistry
Dr. Subhash Vanmali	Associate Professor, Department of Chemistry
Dr. Aravind Gajengi	Assistant Professor, Department of Chemistry
Dr. Dnyaneshwar Kulal	Assistant Professor, Department of Chemistry
Avinash Pardhi	Assistant Professor, Department of Chemistry
Vaibhav Pongade	Assistant Professor, Department of Chemistry
Tushar Patil	Assistant Professor, Department of Chemistry
Dr. Vaibhav Salvi	Assistant Professor, Department of Chemistry
Dr. Niyati Khambete	Assistant Professor, Department of Chemistry
Niranjan Sanzgiri	Assistant Professor, Department of Chemistry
Sana Shaikh	Assistant Professor, Department of Chemistry
Antara Vaidyanathan	Assistant Professor, Department of Chemistry
Sufiyan Khan	Assistant Professor, Department of Chemistry
<u>EXTERNAL SUBJECT EXPERTS</u>	
Prof. S.D. Samant	Retired Professor and Former Head, Department of Chemistry, Institute of Chemical Technology (ICT-Formerly Known as UDCT)
Dr. P.A. Sathe	Former Associate Professor and Head, Department of Chemistry, Ramnarain Ruia College
Dr. Ajit Datar (Industry)	Advisor, Shimadzu Corporation India
Prof. Savita Ladage	Professor, Chemistry Division, Homi Bhabha Centre for Science Education
Dr. Santosh Gharpure	Professor of Chemistry, Department of Chemistry, Indian Institute of Technology, Bombay



The screenshots of the attendance are given below



Dr. Manish Hate, Head, Dept of Chemistry and the Vice-Principal (Academics) welcomed both external and internal and briefed the delegates about the current agenda. The minutes of the last meeting were in-short discussed with the delegates.

The following was the agenda of the meeting:

- 1) To revise, if needed, and approve the changes in the syllabi for FY/SY/TY BA/BSc/BVoc/BMM -(Even semesters) classes
- 2) To Review the question papers
- 3) To decide on the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination (Special discussion seeking opinion regarding online examinations(type of questions etc)/projects/practical, if applicable.. in the current pandemic scenario)
- 4) Any other matter with the permission of the Chair.

Agenda I: To revise, if needed, and approve the changes in the syllabi for FY/SY/TY BSc - (Even semesters) classes

Discussed that:

The syllabus for both the semesters had already been approved by the BoS and had been sent to the Academic Council after the meeting held on 6th April 2020.

Resolved that:

The same syllabus for both UG and PG classes has to be continued for the even semester.

Agenda II : To Review the question papers

Discussed that:

Dr. Savita Ladage indicated that the number of knowledge based questions in the current theory external pattern needs to considerably reduce. Use of good resources and percolating the self study culture in students has to be given prime importance. Dr. Sathe raised an issue on having insistence of four options for Multiple Choice questions should be redundant. Framing questions with more than one correct option should be explored. Understanding capacity of the student needs to be understood, branch wise expert should be invited to suggest to the faculty members the methodology of question paper setting. An official orientation should be conducted.



Resolved that:

The suggestion given by Prof Ladage and Dr. Sathe was accepted and would be forwarded to the Academic council for further deliberation.

Agenda III: To decide on the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination (Special discussion seeking opinion regarding online examinations (type of questions etc)/projects/practical, if applicable.. in the current pandemic scenario)

Discussed that:

The departmental faculty members discussed the current methodology employed by them to conduct online practicals. Dr. A.K. Mapari (Organic Chemistry), Mr. Tushar Patil (Physical Chemistry) and Dr. Vaibhav Salvi (Inorganic and Analytical Chemistry) briefly discussed the methodology employed by them in SYBSc whereas Dr. Mohmad Vasim Sheikh (Inorganic Chemistry), Dr. Madhavi Badole (Organic Chemistry) and Dr. Vaibhav Wagh (Physical Chemistry) put light on the methodology involved in online practicals for the TYBSc class. Ms. Antara Vaidyanathan (NCE-WR) and Dr. Niyati Khambete (Drugs and Dyes) discussed the methodology for conduct of Applied Component practicals while Ms. Sana Shaikh shared her methodology for online practicals for MSc-Analytical Chemistry.

SYBSc

Vaibhav Salvi: He explained that theory of each experiment in Analytical chemistry is explained and role of each chemical is explained in detail.

Tushar Patil: He briefly classified the experiments as Instrumental (05) and Non-Instrumental. Concept and procedure behind each experiment is discussed, with dummy readings, calculations and graph plotting is taught.

Dr. A.K. Mapari: Basic reactions, diagrams, purification is discussed. Reaction mechanism and basic concepts and yield calculations behind the same is explained

TYBSc

Dr. Mohmad Vasim Sheikh: Similar methodology to SYBSc is followed. Along with role of reagents, students are also encouraged to look up the MSDS. Each titration curve is explained and parameters affecting the reaction involved in the titration is also included. He also put light on the eJournal prepared by the students.



Dr. Madhavi Badole/Dr. Niyati Khambete: Binary Separation and Organic preparations form the practical component for TYBSc-Organic Chemistry. They indicated that videos are shown with regards to the technique involved etc. Students are instructed about yield calculations etc. Emphasis is laid on the green context.

Dr. Vaibhav Wagh: Introduction to instrumentation and the standardization of instruments is explained. Theory and detailed calculations are explained. He mentioned that eJournal and graph plotting on Excel and Word is to be explored.

Ms. Antara and Dr. Niyati discussed that Concept and environmental implications of the experiments are taught to the students and dummy readings are given as practice for calculations.
MSc

Sana Shaikh: A step-by-step approach to the experiment was explained to the students and she emphasized the importance of literature review related to every experiment.

Dr Savita Ladage put forth a question about resources what were being used and suggested that videos which are self explanatory should be used. Also faculty members living close to the college should go and record the videos and explain the practicals. Also Journal of Virtual Experiments could be explored as it is a free journal.

Dr. Santosh J Gharpure mentioned that a common problem faced by organic chemistry students is the basic methodology involved in purification of organic compounds. He posed a question whether the students are made to think about the basic concepts involved behind purification and synthesis and suggested a flow chart method for practicals. A problem solving approach towards the practical component needs to be developed.

Dr. P.A. Sathe indicated that the student should be inculcated with the entire purpose behind conducting the experiment. The time should be effectively used for the same and other parameters which can be explored should be explored. Common parameters should be eliminated. At PG level, student should be asked to give protocol other than the prescribed protocol to determine the same quantity. This can be experimented with a small group.

Resolved that:

Suggestions were accepted and blueprint with regards to the same shall be soon provided to the BoS.



Agenda IV: Any other matter with the permission of the Chair.

Discussed that:

Over the years, we have observed that students, specially having biological sciences as combination subject with chemistry, find derivations and numericals slightly difficult in Physical Chemistry. In view of this, Mr. Avinash Pardhi and Ms. Antara Vaidynathan proposed a certificate course in Basic Mathematics for Physical Chemistry for Undergraduate students. After hearing the skeleton of the course, Prof. Savita Ladage and Dr. Santosh Gharpure suggested the incorporation of basic calculus and use of Excel for graph plotting and calculations.

Resolved that:

Suggestions were accepted and blueprint with regards to the same shall be soon provided to the BoS.



Dr. Manish Hate,

Head, Department of Chemistry



Minutes of the BoS in Chemistry Meeting held on 19-05-2021.

The meeting of the Board of Studies in Chemistry was convened on 19-05-2021 on Zoom Platform (in view of on-going pandemic). The following members were present

Name of the Member	Designation
<u>DEPARTMENTAL FACULTY MEMBERS</u>	
Dr. Manish Hate	Vice-Principal and Head, Department of Chemistry
Dr. A.K. Mapari	Associate Professor, Department of Chemistry
Dr. Kamini Donde	Associate Professor, Department of Chemistry
Dr. Madhavi Badole	Assistant Professor, Department of Chemistry
Dr. Vaibhav Wagh	Assistant Professor, Department of Chemistry
Dr. Vijaykumar Chavan	Assistant Professor, Department of Chemistry
Dr. Subhash Vanmali	Associate Professor, Department of Chemistry
Dr. Aravind Gajengi	Assistant Professor, Department of Chemistry
Dr. Dnyaneshwar Kulal	Assistant Professor, Department of Chemistry
Dr. Mohmad Vasim Sheikh	Assistant Professor, Department of Chemistry
Avinash Pardhi	Assistant Professor, Department of Chemistry
Vaibhav Pongade	Assistant Professor, Department of Chemistry
Tushar Patil	Assistant Professor, Department of Chemistry
Dr. Niyati Khambete	Assistant Professor, Department of Chemistry
Niranjan Sanzgiri	Assistant Professor, Department of Chemistry
Sana Shaikh	Assistant Professor, Department of Chemistry
Antara Vaidyanathan	Assistant Professor, Department of Chemistry
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<u>EXTERNAL SUBJECT EXPERTS</u>	
Prof. S.D. Samant	Retired Professor and Former Head, Department of Chemistry, Institute of Chemical Technology (ICT- Formerly Known as UDCT)
Dr. P.A. Sathe	Former Associate Professor and Head, Department of Chemistry, Ramnarain Ruia College
Dr. Ajit Datar (Industry)	Advisor, Shimadzu Corporation India
Prof. Savita Ladage	Professor, Chemistry Division, Homi Bhabha Centre for Science Education
Dr. Santosh Gharpure	Professor of Chemistry, Department of Chemistry, Indian Institute of Technology, Bombay



The screenshots of the attendance are given below



Dr. Manish Hate, Head, Dept of Chemistry and the Vice-Principal (Finance) welcomed both external and internal and briefed the delegates about the current agenda. The minutes of the last meeting were in-short discussed with the delegates.

The following was the agenda of the meeting:

- 1) To revise, if needed, and approve the changes in the syllabi for FY/SY/TY BA/BSc/BVoc/BMM -(Odd semesters) classes
- 2) To seek approval for the new certificate courses, SWAYAM, NPTEL Courses, if any.
- 3) To decide the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination. (Theory/Practical, wherever applicable).
- 4) Any other matter with the permission of the Chair.

Agenda I: To revise, if needed, and approve the changes in the syllabi for FY/SY/TY BSc -(Even semesters) classes



Discussed that:

The syllabus for both the semesters had already been approved by the BoS and had been sent to the Academic Council after the meeting held on 6th April 2020. Also as indicated by Dean-Academics, a disclaimer as given below is to be included in the modality of assessment, in view of the ongoing pandemic.

Owing to the pandemic situation prevailing in 2020 and continuing in 2021, the external examinations (Semester End) may be conducted online as per the instructions/circulars received from the University of Mumbai and Maharashtra State notifications from time to time. The conventional mode of external examination will commence again only after the declaration of normalcy by the Government authorities.

Resolved that:

The same syllabus for both UG and PG classes has to be continued for the Academic year 2021-2022. Also, this line would be included in the syllabus and once the resolution numbers are provided by Academic council, the pdfs would be uploaded on the website.

Agenda II : To seek approval for the new certificate courses, SWAYAM, NPTEL Courses, if any

Discussed that:

The departmental colleagues put forth the two certificate courses designed by the department, namely the Basic Course in Mathematics and the advanced course in Mathematics. Ms. Antara displayed the various modules to be incorporated in the course and these modules were appreciated by the external members. However, Dr. Sathe and Prof. Samant suggested that basics of statistics to be included in the same. As far the NPTEL and SWAYAM courses were concerned, Prof. Samant expressed his apprehension about the similarity that these courses had with the ongoing syllabi of the department. This apprehension was put to rest by the Head of the Department, Dr. Manish Hate quoting that these courses would be mapped with the syllabus and finally the NPTEL course on Chemical Crystallography, as suggested by Mr. Avinash Pardhi was discussed. Prof. Samant also suggested to introduce courses on Cryochemistry and forensic sciences.

Resolved that:

The suggestions given by Prof Samant and Dr. Sathe was accepted, the modifications would be made in the Certificate Courses and would be forwarded to the Academic council for further



deliberation. The NPTEL course on Chemical Crystallography, starting in July 2021 would be floated to the students as a course for extra credits.

Agenda III: To decide on the changes in the modalities of assessment, if any, which includes the question paper pattern, for internal and external examination (Special discussion seeking opinion regarding online examinations (type of questions etc)/projects/practical, if applicable.. in the current pandemic scenario)

Discussed that:

The departmental faculty members discussed the current methodology employed by them to conduct online practicals. Dr Madhavi Badole and Dr. Mohmad Vasim Sheikh discussed the methodologies employed by them to conduct practicals along with the way they conducted the internal and external examination. Prof Ladage suggested the introduction of series of assessments for both theory and practical.

Ms. Antara Vaidyanathan (NCE-WR) and Dr. Niyati Khambete (Drugs and Dyes) discussed the methodology for conduct of Applied Component practicals while Ms. Sana Shaikh shared her methodology for online practicals for MSc-Analytical Chemistry.

Dr. Mohmad Vasim Sheikh: Similar methodology to SYBSc is followed. Along with role of reagents, students are also encouraged to look up the MSDS. Each titration curve is explained and parameters affecting the reaction involved in the titration is also included. He also put light on the eJournal prepared by the students.

Dr. Madhavi Badole/Dr. Niyati Khambete: Binary Separation and Organic preparations form the practical component for TYBSc-Organic Chemistry. They indicated that videos are shown with regards to the technique involved etc. Students are instructed about yield calculations etc. Emphasis is laid on the green context.

Dr. Vaibhav Wagh: Introduction to instrumentation and the standardization of instruments is explained. Theory and detailed calculations are explained. He mentioned that eJournal and graph plotting on Excel and Word is explored.

Ms. Antara and Dr. Niyati discussed that Concept and environmental implications of the experiments are taught to the students and hypothetical readings are given as practice for calculations.



Ms. Sana Shaikh: A step-by-step approach to the experiment was explained to the students and she emphasized the importance of literature review related to every experiment.

Dr Savita Ladage put forth a question about resources what were being used and suggested that videos which are self explanatory should be used. Also faculty members living close to the college should go and record the videos and explain the practicals. Also Journal of Virtual Experiments could be explored as it is a free journal. To this, Dr. Manish Hate, indicated that the departmental colleagues had recorded videos and have developed a MOOC repository for these experiments. The experiments included were: 1) Chemical Kinetics 2) Titrimetric Analysis 3) Organic Separation.

Dr. Santosh J Gharpure mentioned that a common problem faced by organic chemistry students is the basic methodology involved in purification of organic compounds. He posed a question whether the students are made to think about the basic concepts involved behind purification and synthesis and suggested a flow chart method for practicals. A problem solving approach towards the practical component needs to be developed.

Resolved that:

Suggestions were accepted and blueprint with regards to the same shall be soon provided to the BoS.

Agenda IV: Any other matter with the permission of the Chair.

Discussed that: An apprehension with regards to cancellation of admissions to Post Graduate Course (MSc by Papers) in Inorganic and Physical Chemistry was expressed by the departmental colleagues. The External members suggested that the Post Graduate admissions should be carried out parallel to the admission process of University of Mumbai.

Resolved that:

This suggestion would be forwarded to the Academic council of the college.



Dr. Manish Hate,

Head, Department of Chemistry

