

**MINUTES OF MEETING OF BOARD OF STUDIES IN CHEMISTRY HELD ON
DECEMBER 27, 2018 AT 11:00 AM IN CONFERENCE ROOM, VIGYAN MANDIR,
BANASTHALI VIDYAPITH**

PRESENT

1. Prof. P. K. Tandon	External Member
2. Prof. D. Kishore	Internal Member
3. Dr. Anamika Srivastava	Internal Member
4. Dr. Ankita Dhillon	Internal Member
5. Dr. Manish Srivastava	Internal Member
6. Dr. Navjeet Kaur	Internal Member
7. Dr. Nirmala Kumari Jangid	Internal Member
8. Dr. Rajendra	Internal Member
9. Dr. Shurti	Internal Member
10. Dr. Sonika Jain	Internal Member
11. Dr. Sudhanshu Sharma	Internal Member
12. Dr. Sudesh Kumar	Internal Member
13. Dr. Ved Prakash Verma	Internal Member
14. Dr. Vivek Sharma	Internal Member
15. Dr. Jaya Dwivedi	Convenor

Note: Prof. P. K. Tandon, the external member and Dr. Kavita Poonia the internal member could not attend the meeting.

Before proceeding to discuss the Agenda of the meeting, the Convenor on behalf of the Department of Chemistry, Banasthali Vidyapith accorded a cordial welcome to all the external and internal members of the BOS.

1. BOS took up the confirmation of the minutes of its last meeting held on April 25, 2016 and as no comments were received from the members, the Board resolved that the minutes of its last meeting be confirmed.
2. BOS updated the existing panel of examiners in each paper of Undergraduate and Postgraduate examinations of Chemistry in accordance to the Byelaws 15.03.2002 of the Vidyapith. Panel of examiners has been updated in the provided format keeping in view that all the examiners are fulfill the criteria for appointment as an examiner.
[The updated list of examiners has been handed over to the examination (secrecy) section].
3. The Board reviewed the Courses of Study, Curricula and Scheme of Examinations of the following undergraduate and postgraduate examinations of Chemistry:
 - (I) **Bachelor of Science (B. Sc.) Examination:**
 - (i) First Semester Examination, December 2019
 - (ii) Second Semester Examination, April/May 2020
 - (iii) Third Semester Examination, December 2020
 - (iv) Fourth Semester Examination, April/May 2021
 - (v) Fifth Semester Examination, December 2021
 - (vi) Sixth Semester Examination, April/May 2022
 - (II) **Master of Science (M. Sc.) Chemistry Examination:**
 - (i) First Semester Examination, December 2019
 - (ii) Second Semester Examination, April/May 2020
 - (iii) Third Semester Examination, December 2020
 - (iv) Fourth Semester Examination, April/May 2021

Details of the Scheme of Examinations and the syllabi of different courses are given as below:

(I) Bachelor of Science (B. Sc.) Examinations:

No change has been made in scheme of examination and only a minor change has been made in the syllabus of Inorganic, Organic Chemistry and Physical Chemistry.

(II) Master of Science (M. Sc.) Chemistry Examination:

Scheme of Examinations (Existing and Modified Schemes of Sem. Exam)

Annexure-I (Page No. 5 to 6)

Syllabi (Existing and Modified Syllabi of Semester Examinations)

Annexure-II (Page No. 7 to 71)

4. BOS considered the reports of the examiners of various examinations of 2017-2018 and observed that in all the cases examiners were satisfied with the performance of the students.
5. BOS has thoroughly analyzed the quality of question papers of the year 2017-2018 keeping the following points in mind:
 - (i) Percentage of analytical based questions.
 - (ii) Percentage of descriptive questions
 - (iii) Percentage of application based questions.
 - (iv) Percentage of information based questions.
 - (v) Time allotted to the question papers was appropriate or not.

In most of the papers, it has been found that there has been a judicious balance of all these components in the papers. The outcome of the analysis of the papers of year 2017-2018 is shown in the **Annexure-III**.

6. The BOS reviewed the Programme outcomes for M.Sc. Programme and Learning Outcomes for each courses of M.Sc. and B.Sc. Programmes (**Annexure-I and II**).
7. The text books were already recommended for each course in the syllabus, however, where the text books were not recommended for the amended part of syllabus; the text books have been included. BOS also reviewed the suggested e- resources for each courses in the syllabus.
8. BOS reviewed the structure of M. Sc. Programme in Chemistry and suggested new courses of study which are given in Annexure II. **In the proposed structure the students will now study Literature dissertation, Elective Paper and Reading Elective paper (one will be opted from pool of Electives and Reading Electives I) in Third semester, also a Reading Elective paper (one will be opted from pool of Reading Electives II) in forth semester of the M.Sc. Programme.**

The meeting ended with a vote of thanks to the Chair.

Programme & Course Format for BOS Minutes

Name of Programme: M.Sc. Chemistry

Programme Educational Objectives:

Banasthali Vidyapith's educational ideology, aims to nurture future scientist through all round development of the student personality by inculcating proper sense of values and knowledge besides maintaining a harmonious balance of spiritual and scientific values. In view of this, the program objective of department of chemistry aims:

- To impart critical thinking by providing them with a foundation in chemistry that stresses scientific reasoning.
- To provide a real sense of education by inculcating in them ethics and values.
- To demonstrate information literacy skill for acquiring the ability to synthesize, separate and characterize compounds using published reactions, standard laboratory equipment, and modern instrumentation as a student and as a lifelong learner.
- To provide a foundation to carry accurate quantitative and qualitative measurements with an understanding of the theory and draw useful conclusion.
- To impart basic technical skills to solve pertaining problems independently, in concerned or interdisciplinary subjects.
- To create an awareness regarding effective and safe use of chemicals.

Programme Outcomes:

- **Chemistry knowledge:** Develop an insight of the core and importance of chemistry for society and individual well being
- **Planning ability:** Acquire the skills of planning and conducting advanced chemical experiments and applying structural-chemical characterization techniques
- **Problem analysis:** Identify, formulate, research literature, and analyze various analytical and experimental techniques taught during the course, for solving problems and make reasonable conclusions. The graduates should be able to systematically break up complex problems in realizable steps and solve them problems reaching substantiated conclusions
- **Communication:** Communicate both written and oral, for specialized and non-specialized audiences
- **Modern tool usage:** Use modern instrument and methods for dealing with structural problem taught during the course besides understanding its limitations. The graduate will be able to use modern tools, software, equipment etc. to analyze and obtain solution to the problems
- **Professional identity:** Work as a Chemistry professional, and qualify for training as scientific researcher. Altitude of Professionalism to function effectively in the complex modern work environment / society with the ability to assume professional leadership roles and achieve professional understanding and appreciation of ethical behavior, social responsibility and diversity, both as individuals and in team environments. Explore new areas of research in both chemistry and allied fields of science and technology
- **Environment and sustainability:** The graduates should practice their profession considering environmental protection and sustainability
- **Ethics:** Honor the hard work of chemists, problem faced and how they surpassed the problem while performing novel experimental techniques and also get an understanding of harmful effects of chemicals and their necessity to dump them safely for individual and social well being
- **Chemist and society:** The students will be able to study the impact of process industry on the global, economic, and societal context
- **Life-long learning:** Longitude of not only opening careers in the branch in the concerned subject but also recognize the application of chemistry in context of problem in environmental, food processing, pharmaceutical, biochemical, agriculture, fuels and chemicals, textile processing, mining and many other industries and will be able to apply new innovative and novel approach to solve them.

Programme Scheme:

Master of Science (Chemistry)


FIRST SEMESTER EXAMINATION														
Existing Curriculum Structure (December 2018)							Proposed Curriculum Structure (December 2019)							Changes and Justifications
Course	Code	Course Name	L	T	P	C*	Course	Code	Course Name	L	T	P	C*	
CHEM	401	Analytical Chemistry	4	0	0	4	CHEM		Analytical Chemistry	4	0	0	4	No Change
CHEM	402L	Chemistry Lab-I	0	0	12	6	CHEM		Chemistry Lab-I	0	0	12	6	
CHEM	405	Inorganic Chemistry	4	0	0	4	CHEM		Inorganic Chemistry	4	0	0	4	
CHEM	406	Organic Chemistry	4	0	0	4	CHEM		Organic Chemistry	4	0	0	4	
CHEM	408	Physical Chemistry	4	0	0	4	CHEM		Physical Chemistry	4	0	0	4	
MATH	407	Mathematics for Chemists	4	0	0	4	MATH		Mathematics for Chemists	4	0	0	4	
Total			20	0	12	26	Total			20	0	12	26	

SECOND SEMESTER EXAMINATION														
Existing Curriculum Structure (April/May 2019)							Proposed Curriculum Structure (April/May 2020)							Changes and Justifications
Course	Code	Course Name	L	T	P	C*	Course	Code	Course Name	L	T	P	C*	
CHEM	403L	Chemistry Lab-II	0	0	12	6	CHEM		Chemistry Lab-II	0	0	12	6	<ul style="list-style-type: none"> • Corse CHEM 404 replaced with CHEM 513 Special Topics in Physical Chemistry of Third Semester • Corse CS 409 and CS 409L has been dropped and Photo Inorganic Chemistry have been introduced
CHEM	404	Cyclic Voltammetry and Spectroscopic Techniques	4	0	0	4	CHEM		Special Topics in Physical Chemistry	4	0	0	4	
CHEM	407	Organic Reaction Mechanism	4	0	0	4	CHEM		Organic Reaction Mechanism	4	0	0	4	
CHEM	409	Spectral Techniques in Inorganic Chemistry	4	0	0	4	CHEM		Spectral Techniques in Inorganic Chemistry	4	0	0	4	
CHEM	410	Spectroscopy	4	0	0	4	CHEM		Spectroscopy	4	0	0	4	
CS	409	Computer Applications in Chemistry	3	0	0	3	CHEM		Photo Inorganic Chemistry	4	0	0	4	
CS	409L	Computer Applications in Chemistry Lab	0	0	4	2								
Total			19	0	16	27	Total			20	0	12	26	

THIRD SEMESTER EXAMINATION														
Existing Curriculum Structure (December 2018)							Proposed Curriculum Structure (December 2020)							Changes and Justifications
Course	Code	Course Name	L	T	P	C*	Course	Code	Course Name	L	T	P	C*	
CHEM	503	Bio Inorganic Chemistry	4	0	0	4	CHEM		Bioinorganic and Bioorganic Chemistry	4	0	0	4	<ul style="list-style-type: none"> New Course Bioinorganic and Bioorganic Chemistry, Literature Dissertation has been added, Course Bioorganic Chemistry has been deleted. Physical Spectroscopy has been introduced Reading Elective paper I of Two Credit have been Added
CHEM	504	Bio-organic Chemistry	4	0	0	4	CHEM		Literature Dissertation	4	0	0	4	
CHEM	505L	Chemistry Lab -III	0	0	12	6	CHEM		Chemistry Lab - III	0	0	12	6	
CHEM	509	Organic Chemistry (Chemistry of Natural Product)	4	0	0	4	CHEM		Organic Chemistry (Chemistry of Natural Product)	4	0	0	4	
CHEM	513	Special Topics in Physical Chemistry	4	0	0	4	CHEM		Physical Spectroscopy	4	0	0	4	
							CHEM		Elective Paper (a): ENVS 405 Environmental Chemistry (b): Nanomaterial's (c): Polymer Chemistry	4	0	0	4	
							CHEM		Reading Elective I (a): BT604R Renewable Energy Sources (b): Metals in Medicines (c): Forensic Science	0	0	0	2	
Total			20	0	12	26	Total			20	0	12	28	

FOURTH SEMESTER EXAMINATION														
Existing Scheme of Examination (April/May 2019)							Proposed Scheme of Examination (April/May 2021)							Changes and Justifications
Course	Code	Course Name	L	T	P	C*	Course	Code	Course Name	L	T	P	C*	
CHEM	501	Advanced Inorganic Chemistry	4	0	0	4	CHEM		Advanced Inorganic Chemistry	4	0	0	4	<ul style="list-style-type: none"> Reading Elective paper II of Two Credit have been Added
CHEM	502	Advanced Physical Chemistry	4	0	0	4	CHEM		Advanced Physical Chemistry	4	0	0	4	
CHEM	506L	Chemistry Lab -IV	0	0	12	6	CHEM		Chemistry Lab - IV	0	0	12	6	
CHEM	510	Organic Synthesis	4	0	0	4	CHEM		Organic Synthesis	4	0	0	4	
CHEM	511	Organotransition Metal Chemistry	4	0	0	4	CHEM		Organotransition Metal Chemistry	4	0	0	4	
CHEM	512	Photo-organic and Heterocyclic Chemistry	4	0	0	4	CHEM		Photo-organic and Heterocyclic Chemistry	4	0	0	4	
							CHEM		Reading Elective II (a): BIO 602R Bio ethics, bio safety and IPR (b): Pharmaceutical Chemistry (c): Nano Catalysis (d): ICT in Teaching and Learning	0	0	0	2	
Total			20	0	12	26	Total			20	0	12	28	

Course Details: (See annexure II)


 Offg. Secretary
 Banasthali Vidyapith
 P.O. Banasthali Vidyapith
 Distt. Tonk (Raj.)-304022