

University of Mumbai



College Affiliations &
Development Department
Aff./ICD/2023-24/3034
23rd February, 2024.

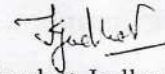
TO WHOMSOEVER IT MAY CONCERN

This is to certify that South Indian Education Society's SIES College of Arts, Science and Commerce (Autonomous), Plot No. 83/84 & 106/107, Jain society, Sion (West), Mumbai – 400 022 is affiliated to the University of Mumbai since 1960-1961 and the following courses are conducted in the college:-

Sr. No	Programme	Duration	Affiliation (Permanent /Temporary)	Period of Validity for the years
1	B.A.(General & Special) in English, Marathi, Gujarati, Hindi, Economics, Politics, Philosophy & Mathematics, B.A.(General), Sanskrit, French, German & History /	3 Years	Permanent	From 1969
	Psychology, Yoga	1 Years	Temporary	From 2007-08 to 2023-24
2	B.Sc in Physics, Chemistry, Bio-Chemistry, Mathematics, Statistics, Botany, Zoology and Microbiology (Principal and subsidiary)	3 Years	Permanent	From 1969 From 1995
3	B.Com ✓	3 Years	Permanent	From 1995
4	B.A.M.M.C ↓	3 Years	Temporary	From 2000-01 to 2023-24
5	B.M.S ↓	3 Years	Temporary	From 2002-03 to 2023-24
6	B.Sc (Computer Science) ↓	3 Years	Temporary	From 2000-01 to 2023-24
7	B.Sc (Information Technology) ↓	3 Years	Temporary	From 2001-02 to 2023-24
8	B.Sc (Bio Technology) ✓	3 Years	Temporary	From 2002-03 to 2023-24
9	B.Sc (Data Science)	3 Years	Temporary	From 2022-23to 2023-24
10	M.Sc Chemistry, Biochemistry, Physics Botany, Zoology Microbiology	2 Years	Temporary	From 1983-84 to 2023-24 From 1993-94to 2023-24 From 2005-06to 2023-24 From 1991-92to 2023-24
11	M.Sc (Information Technology)	2 Years	Temporary	From 2004-05 to 2023-24
12	M.Sc (Computer Science)	2 Years	Temporary	From 2002-03to 2023-24
13	M.Sc (Bio Technology)	2 Years	Temporary	From 2008-09to 2023-24

Program Started under Autonomy				
14	B.M.S Capital Marketing	3 Years	Temporary	From 2021-22 to 2023-24
15	B.Sc Packaging Technology	3 Years	Temporary	From 2021-22 to 2023-24
16	B.Sc Environmental Science	3 Years	Temporary	From 2021-22 to 2023-24
17	M.Sc Data Science	2 Years	Temporary	From 2021-22 to 2023-24
18	M.Sc Bio analytical Science	2 Years	Temporary	From 2019-20 to 2023-24
19	M.Sc Food Technology and Nutraceuticals	2 Years	Temporary	From 2023-24

This Certificate is issued on the request of the Principal of the said College for submitting the same to the NAAC, Bangalore, accordingly.



(Jaydatt Jadhav)

Assistant Registrar

College Affiliations & Development Department

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Principal

SIES College of Arts, Science &
Commerce (Autonomous)
Sion (West), Mumbai - 400 022.

University of Mumbai



No. Th/ICD/2023-24/2880

16th February, 2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **SIES College of Arts, Science & Commerce (Autonomous), Sion (W), Mumbai - 400 022** is recognized Research Centre of the University of Mumbai for the following Courses-

Sr. No.	Name of the Faculty / Subjects	Intake Capacity	Recognition	Academic Year of Recognition
1	M.A. (By Research) / Philosophy	05	Temporary	Upto Academic Year 2023-24
2	M.Sc. (By Research) / Microbiology	05	Temporary	Upto Academic Year 2023-24
3	M.Sc. (By Research) / Zoology	08	Temporary	Upto Academic Year 2023-24
4	M.Sc. (By Research)/ Biotechnology	02	Temporary	Upto Academic Year 2023-24
5	Ph.D. (Science) / Microbiology	05	Temporary	Upto Academic Year 2023-24
6	Ph.D. (Science) / Chemistry	08	Temporary	Upto Academic Year 2023-24
7	Ph.D. (Science) / Physics	04	Temporary	Upto Academic Year 2023-24
8	Ph.D. (Science) / Biochemistry	03	Temporary	Upto Academic Year 2023-24
9	Ph.D. (Science) / Bioanalytical Sciences	06	Temporary	Upto Academic Year 2023-24
10	Ph.D. (Science) / Botany	05	Temporary	Upto Academic Year 2023-24
11	Ph.D. (Science) / Zoology	05	Temporary	Upto Academic Year 2023-24
12	Ph.D. (Science) / Biotechnology	03	Temporary	Upto Academic Year 2023-24
13	Ph.D. (Humanities) / Philosophy	08	Temporary	Upto Academic Year 2023-24
14	Ph.D. (Humanities) / English	10	Temporary	Upto Academic Year 2023-24
15	Ph.D. (Humanities) / Politics	12	Temporary	Upto Academic Year 2023-24

This certificate is issued on the request made by the Principal for presenting the same before NAAC authorities.


Deputy Registrar 16/2/24
(Research Administration & Promotion Cell)

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Principal

**SIES College of Arts, Science &
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Sion (West), Mumbai - 400 022,**


BMS - CM

• 2020-21

Minutes of Meeting

1. The meeting started with discussing the agenda which were as follows:
 - (i) To devise the framing of syllabus for BMS Capital Markets Sem III
 - (ii) To allocate syllabus framing work to board members and other recommended personnel from industry.
2. Ms. Umadevi Kokku listed out the subjects for Sem III and Mr. K. Saravanan Nadar suggested for swapping two subjects namely (i) Principles of Management and (ii) Business Statistics of Sem III with two subjects (i) Fixed Income Securities and (ii) FOREX from Sem IV.
3. Principal Dr. Uma Shankar requested the members to work upon the draft syllabus for Sem III by 13th March, 2021 and get it reviewed by industry experts and allocate work for Sem IV thereon.
4. Principal Dr. Uma Shankar also proposed to pass the entire syllabus of SYBMS (Capital Markets) during the Academic Council Meeting to be held during May 2021 for the Academic Year 2021 – 2022.




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ANNEXURE

The following members were present for BMS (Capital Market) Board of Studies meeting held on 27th February 2021 at 12:00 noon at Board Room.

Sr. No.	Name
01	Jinal Karkh
2.	Roy Mathew.
3)	Umaderi Karkh
4)	Deepika Gawade
5)	Kristina R
6)	K Saravanan Madan

Signature
Jinal Karkh
Roy Mathew
Umaderi Karkh
Deepika Gawade
Kristina R
K Saravanan Madan



Signature
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SIES College of Arts, Science & Commerce (Autonomous)

Sion West, Mumbai – 400 022.

Minutes of the Meeting Held on 1st June 2021

Agenda:

- Discuss and finalise second year syllabus for the bachelor's degree Course in Capital Market

Minutes:

- The meeting began with Ms.Umadevi Kokku, Chairperson and Ms.Mahalaxmi Nadar, Convenor -Centre for Excellence addressing the gathering and congratulating each member on successfully completing the first year of the BMS Capital Markets course
- The Chairperson informed the members that the draft copy of semester iv of BMS in Capital Markets is sent to all for their valuable input and feedback
- Ms. Nitya Mahajan suggested revision in the course name Technical Analysis .On discussion, it was decided that the course name is adequate and need not be changed
- Ms.Tanuj Poddar 's (member), suggestion to include Pension Fund Regulatory & Development Authority Act 2013 in the course Market & Regulators was affirmatively accepted
- Discussion on courses that have practical hours allocation were initiated and necessary allocation was determined
- It was resolved that student should be encouraged towards internships and placements by exposing them to Workshop and Guest lecture for specialised subjects.
- Summer Internship for second year students was proposed
- The meeting ended on a pleasant note with appreciating the members contribution to the course curriculum and evaluation techniques and making the course more contemporary to cater to the industry requirements

Name of Attendee:

Ms. Umadevi Kokku -Chairperson, BOS
 Ms.Mahalaxmi Nadar – Convenor , Centre for Excellence
 Ms. Maria Fernandes – Member
 Ms. Nithya Mahajan- Member
 Mr. Avin Shah – Member
 Mr. K. Saravanan Nadar +Member
 Mr. Krishnan Ramachandran- Member
 Ms. Deepika Gawade-Member
 Mr. Vishal Gada- Member
 Mr. Karthik Krishnan- Member
 Mr. Kirtan Shah- Member




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Date of Meeting: Monday 8th June, 2020

Timing – 1:00pm – 2:30pm

First BoS meeting for BMS (CM)

Agenda

- Framing Syllabus for all 6 semester
- Evaluation and Marking Scheme
- Subject Allocation for teachers
- Fine Tuning of Module Titles in each subject

Minutes:

- 2 Credits for Business Communication – I and Communication in the Semester I and Semester II respectively.
- Principles of Management from Semester I was replaced with Business Economics – II and it was shifted to Semester III
- Introduction of new course Market Regulators
- Islamic Banking and Finance in semester VI replaced with Project Work
- The Marking Scheme will be 60 – 40 (Where 60 marks for External Examination and 40 marks will be internal component).
- The 40 marks internal component will be further divided into two parts (20 marks for Online MCQ Examination and 20 Marks for Project Work / Presentation / Case Study / Field Visit Report / Report writing)

Name of Attendee

Dr. Uma Shankar (Principal)

Mr. Vishal Gada

Mr. Kirtan Shah

Ms. Mahalaxmi Nadar

Mr. Roy Mathew

Ms. Nithya Mahajan

Mr. Avin Shah

Ms. Umadevi Kokku

Mr. K. Saravanan Nadar




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Department of Management Studies

(Capital Market)

Minutes of the Meeting Held on 11th August 2022

Agenda:

1. To inform the members about the inclusion of Internship based project in semester 5.
2. To inform the members about the inclusion of research-based project in semester 6

Minutes:

- An E-mail was sent to all the BOS members regarding inclusion of Internship based and research based project.
- An Email confirmation was received from BOS members approving the above-mentioned changes.

Attendees:

Sr. No.	NAME	Designation
1	Mr. K.Saravanan Nadar	Chairman
2	Ms. Supriya Shetty	Faculty Representative
3	Ms. Deepika Gawade	Faculty Representative
4	Mr. Ankit Kanojiya	Faculty Representative
5	Mr. Samarth Nebhani	Faculty Representative
6	Dr. Nooruzia Qazi	Subject experts from outside parent university
7	Dr. Richa Jain	
8	Dr. Kinnarry Thakkar	Subject Experts from Parent University
9	Mr. Vaibhav Agarwal	Industry Representative
10	Mr. Dhairya Kalaria	Post Graduate Meritorious Alumnus



[Signature]
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2023-24

Approval and suggestion on NEP 2020 pattern for Department of Management Studies

Saravanan Nadar <Saravanann@sies.edu.in>

Mon 6/26/2023 5:15 PM

To: kinnariyt@gmail.com <kinnariyt@gmail.com>; nooruzia@yahoo.com <nooruzia@yahoo.com>;
 richajain19@rediffmail.com <richajain19@rediffmail.com>; vagarwal81@gmail.com <vagarwal81@gmail.com>;
 vishal@fpa.edu.in <vishal@fpa.edu.in>; tanuj@fpa.edu.in <tanuj@fpa.edu.in>; tanuj@fpa.edu.in <tanuj@fpa.edu.in>;
 Cc: Deepika Gawde <deepikag@sies.edu.in>

1 attachments (17 KB)

Department of Management Studies NEP BoS.xlsx;

Dear Board of Studies members,

Greetings from the Department of Management Studies!

I am writing to inform you about the National Education Policy 2020 (NEP 2020), which was approved by the Union Cabinet of India on 29 July 2020. NEP 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country and is aligned to the 2030 Agenda for Sustainable Development.

As a Board of Studies members, you play a crucial role in designing and implementing the curriculum and pedagogy in accordance with the NEP 2020. I request you to kindly go through the NEP 2020 document and share your valuable feedback and suggestions on how we can effectively adopt and adapt it in our educational institutions.

As of now we have added course title for Semester I and Semester II for BMS (Regular) and BMS (Capital Market).

I look forward to hearing from you soon.

Thank you for your time and cooperation.

Sincerely,

Prof. K. Saravanan Nadar

B.M.S., M.E.A (Legal Management), M.Com (Business Management),
 M.A. - M.I. (Commerce), M.A. (Business Economics)
 Coordinator and Asst. Professor - Department of Management Studies



[Signature]
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Approval Required for Semester III & IV Course Title as per NEP

Saravanan Nadar <Saravann@sies.edu.in>

Tue, 27 Oct 2020 6:53 PM

To: antara.sonawane@hindujacollege.com <antara.sonawane@hindujacollege.com>; kinnaarry@gmail.com <kinnaarry@gmail.com>; ummaiyah@gmail.com; nooruzia@yahoo.com <nooruzia@yahoo.com>; richajain19@rediffmail.com <richajain19@rediffmail.com>; vagarwal81@gmail.com <vagarwal81@gmail.com>; Vishal Gada <vishal@lpa.edu.in>; tanuj@lpa.edu.in <tanuj@lpa.edu.in>; Deepika Gawde <deepikag@sies.edu.in>; Supriya Shetty <supriyas@sies.edu.in>; Ankit Kanchaniya <Ankitk@sies.edu.in>; Bhavana Tushar Shinde <Bhavas@sies.edu.in>

1 attachments (10 KB)

SYEMS (Regular & CM) Title as per NEP.xlsx

Dear Sir / Madam,

I am writing to seek your approval on the revised course title draft for second year Bachelor of Management Studies semester III and IV, which has been carefully reviewed and updated based on the National Education Policy 2020.

Unfortunately, due to the unavoidable unavailability of some Board members, we are unable to gather for a formal vote at this time. Therefore, with the understanding that a quorum for official approval cannot be achieved through email, we are respectfully requesting your individual feedback and acceptance of the draft syllabus via this message.

We believe the proposed changes will significantly enhance the learning experience for students and address the suggestions raised during the previous meeting.

If you have any concerns or require further clarification on any specific aspect of the draft, please do not hesitate to contact me directly. We would be happy to schedule a quick call to discuss them in detail.

We understand that email approval is not our customary practice, and we sincerely apologize for any inconvenience this may cause. However, given the pressing need to finalize the syllabus before the Academic Council meeting begins, we hope you will understand and consider this exceptional approach.

Thank you for your understanding and continued support. We appreciate your valuable input and look forward to receiving your feedback on the draft course title. We will be sending you all detailed syllabus for the same.



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Prof. K.Saravanan Nadar

B.B.S., M.B.A. (Finance Management), M.Com (Business Management),
M.Phil (Commerce), M.A. (Business Economics)
Coordinator and Asst. Professor - Department of Management Studies



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2023-24

**SIES College Of Arts, Science & Commerce (Autonomous)
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Minutes of Meeting (MoM)

Date: 18th February, 2023

Meeting Date: 17th February, 2023

Meeting Time: 12:30 PM

Meeting Location: CS LAB

Following Board of Studies members have attended the online/offline meeting:

1. Dr. Abuzar Ansari, HoD of Data Science, SIES College of Arts, Science & Commerce (Autonomous).
2. Dr. Manoj Singh, HoD of Computer Science, SIES College of Arts, Science & Commerce (Autonomous).
3. Ms. Sudha Bhagavatheeswaran, HoD of Information Technology, SIES College of Arts, Science & Commerce (Autonomous).
4. Ms. Biju Ramesh, Assistant Professor of Information Technology, SIES College of Arts, Science & Commerce (Autonomous).
5. Dr. Siby Abraham, Professor of SVKM's Narsee Monjee Institute of Management Studies (NMIMS).
6. Dr. Hiren Dand, HoD of Mulund College of Commerce.
7. Dr. Amol Joglekar, Assistant Professor of Mithibai College of Arts Chauhan Institute of Science and A.J. College of Commerce and Economics.
8. Mr. Kunal Shah, founder of Socialtitli Digital Solutions.

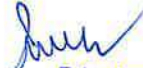
Agenda as per the notice:

1. Review and finalize the syllabus for the First Year B.Sc. Data Science under NEP 2020, Second Year B.Sc. Data Science non-NEP, and M.Sc. Part – I Data Science under NEP 2020 for the academic year 2023 – 24 onwards.
2. Discuss any changes or updates needed.
3. Set deadlines for syllabus completion and distribution.

Meeting Notes:

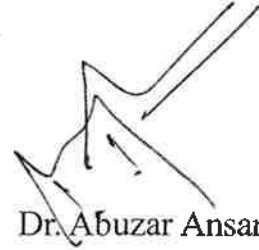
- The meeting commenced at 12:30 PM under the chairmanship of Dr. Abuzar Ansari, HoD of Data Science.
- Dr. Abuzar Ansari presented the current draft of the syllabus for the First Year B.Sc. Data Science under NEP 2020, Second Year B.Sc. Data Science non-




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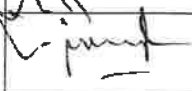


NEP, and M.Sc. Part – I Data Science under NEP 2020 for the academic year 2023 – 24 onwards.

- The team discussed various aspects of the syllabus, including course objectives, topics to be covered, assignments, and grading criteria.
- The BoS Committee approved the proposed syllabus.
- The meeting concluded at 1:30 PM



Dr. Abuzar Ansari
HoD of Data Science

Following Board of Studies members attended the meeting online/offline:

Name of the Attendees present in the online/offline meeting	Signature
Dr. Abuzar Ansari, HoD of Data Science, SIES College of Arts, Science & Commerce (Autonomous)	
Dr. Manoj Singh, HoD of Computer Science, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Sudha Bhagavatheeswaran, HoD of Information Technology, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Biju Ramesh, Assistant Professor of Information Technology, SIES College of Arts, Science & Commerce (Autonomous)	
Dr. Siby Abraham, Professor of SVKM's Narsee Monjee Institute of Management Studies (NMIMS)	ONLINE
Dr. Hiren Dand, HoD of Mulund College of Commerce	ONLINE
Dr. Amol Joglekar, Assistant Professor of Mithibai College of Arts Chauhan Institute of Science and A.J. College of Commerce and Economics.	ONLINE
Mr. Kunal Shah, founder of Socialtitli Digital Solutions	ONLINE




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Sion (West), Mumbai - 400 022.



2024-25

**SIES College Of Arts, Science & Commerce (Autonomous)
Sion (West), Mumbai 400 022**

Minutes of Meeting (MoM)

Date: 17th February, 2024

Meeting Date: 16th February, 2024

Meeting Time: 12:00 PM

Meeting Location: CS LAB

Following Board of Studies members have attended the online/offline meeting:

1. Dr. Abuzar Ansari, HoD of Data Science, SIES College of Arts, Science & Commerce (Autonomous).
2. Dr. Manoj Singh, HoD of Computer Science, SIES College of Arts, Science & Commerce (Autonomous).
3. Ms. Sudha Bhagavatheeswaran, HoD of Information Technology, SIES College of Arts, Science & Commerce (Autonomous).
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6. Dr. Hiren Dand, HoD of Mulund College of Commerce.
7. Dr. Amol Joglekar, Assistant Professor of Mithibai College of Arts Chauhan Institute of Science and A.J. College of Commerce and Economics.
8. Mr. Kunal Shah, founder of Socialtitli Digital Solutions.

Following members from Department of Data Science have attended the online/offline meeting:

1. Ms. Vinaya Kulkarni, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous).
2. Ms. Leeba John, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous).
3. Ms. Heena Shaikh, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous).

Agenda as per the notice:

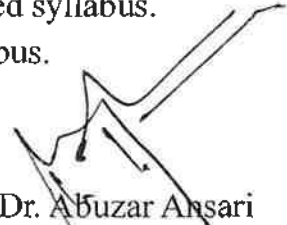



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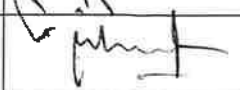
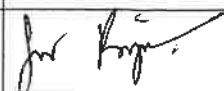
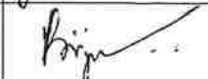
1. Review and finalize the syllabus for the Second Year B.Sc. Data Science under NEP 2020, Third Year B.Sc. Data Science non-NEP, and M.Sc. Part – II Data Science under NEP 2020 for the academic year 2024 – 25 onwards.
2. Discuss any changes or updates needed.
3. Set deadlines for syllabus completion and distribution.

Meeting Notes:

- The meeting commenced at 12:00 PM under the chairmanship of Dr. Abuzar Ansari, HoD of Data Science.
- Dr. Abuzar Ansari presented the current draft of the syllabus for the Second Year B.Sc. Data Science under NEP 2020, Third Year B.Sc. Data Science non-NEP, and M.Sc. Part – II Data Science under NEP 2020 for the academic year 2024 – 25 onwards.
- The team discussed various aspects of the syllabus, including course objectives, topics to be covered, assignments, and grading criteria.
- A suggestion came from Mr. Kunal Shah to include AI tools and video editing tools in Practical session of Digital Marketing syllabus. Have incorporated the changes in the proposed syllabus.
- Suggestion came from Dr. Manoj Singh to include the theory of Simplex Method and Dual Problem in unit – 3 of Matrix Theory and Linear Algebra syllabus. Have incorporated the changes in the proposed syllabus.
- The BoS Committee then approved the proposed syllabus.
- The meeting concluded at 1:30 PM.


Dr. Abuzar Ansari
HoD of Data Science

Following Board of Studies members attended the meeting online/offline:

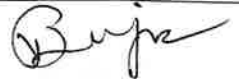


Name of the Attendees present in the online/offline meeting	Signature
Dr. Abuzar Ansari, HoD of Data Science, SIES College of Arts, Science & Commerce (Autonomous)	
Dr. Manoj Singh, HoD of Computer Science, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Sudha Bhagavatheeswaran, HoD of Information Technology, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Biju Ramesh, Assistant Professor of Information Technology, SIES College of Arts, Science & Commerce (Autonomous)	




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Dr. Siby Abraham, Professor of SVKM's Narsee Monjee Institute of Management Studies (NMIMS)	ABSENT
Dr. Hiren Dand, HoD of Mulund College of Commerce	ONLINE
Dr. Amol Joglekar, Assistant Professor of Mithibai College of Arts Chauhan Institute of Science and A.J. College of Commerce and Economics.	ONLINE
Mr. Kunal Shah, founder of Socialtitli Digital Solutions	ONLINE

Following members from Department of Data Science attended the meeting online/offline:

Name of the Attendees present in the online/offline meeting	Signature
Ms. Vinaya Kulkarni, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Leeba John, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous)	
Ms. Heena Shaikh, Assistant Professor of Data Science, SIES College of Arts, Science & Commerce (Autonomous)	





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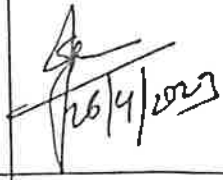
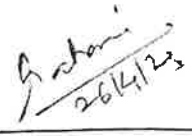
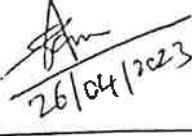

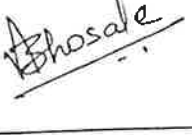
**List of Members in Board of Studies Meeting for
B. Sc. Environmental Sciences**

26th April 2023

Sr. No.	Name	Designation	Email ID	Signature
1.	Dr. Uma Shankar	Principal, SIES ASC, Sion (W)	umas@sies.edu.in	--
2.	Dr. V. Vishnuprasad Coordinator, EVS Department, SIES ASCS Autonomous, Sion (W)	Chairperson	vishnuprasadv@sies.edu.in	--
3.	Dr. Seema Mishra Director SIES IEM, Nerul, Navi Mumbai	Chairman	seemam@sies.edu.in	Online
4.	Dr. Prashant Bhave Associate Prof., Department of Civil Engineering, VJTI, Matunga, Mumbai	Member (Faculty, UOM)	ppbhave26@gmail.com	
5.	Dr. Ramesh Madav Chairman, Terracon Ecotech, Vile Parle, Mumbai	Member (Industry)	ramesh@terraconindia.com	--
6.	Dr. Jyoti Koliyar Head, Department of Environmental Sciences, SIES ASCN, Nerul, Navi Mumbai	Member (Faculty, UOM)	iyotik@sies.edu.in	Online
7.	Dr. Suman Rani Assistant Professor SIES IEM, Nerul, Navi Mumbai	Member	Sumanr@sies.edu.in	online
8.	Dr. Amrita Dutta Assistant Professor SIES IEM, Nerul, Navi Mumbai	Member	amritad@sies.edu.in	online
9.	Ms. Nikita Ubbu	Member (Alumnus – B. Sc. Botany 2015-2018)	nikitaubbu28@gmail.com	online





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10.	Dr. Satish Sarfare, Vice Principal and Head, Department of Zoology, SIES ASCS Autonomous, Sion (W)	Member	satishs@sies.edu.in	 26/4/2023
11.	Dr. Mahavir Gosavi, Head, Department of Botany, SIES ASCS Autonomous, Sion (W)	Member	mahavirg@sies.edu.in	 26/4/23
12.	Mr. Shekar Aiyar Head, Department of Chemistry, SIES ASCS Autonomous, Sion (W)	Member	shekara@sies.edu.in	 26/04/2023
13.	Mrs. Pooja Sawant Faculty, EVS Department, SIES ASCS Autonomous, Sion (W)	Member	poojaswt@sies.edu.in	
14.	Miss Akshaya Bhosale Faculty, EVS Department, SIES ASCS Autonomous, Sion (W)	Member	akshayab@sies.edu.in	

Dr. V. Vishnuprasad

Coordinator, EVS




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SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)

SION (WEST), MUMBAI – 400 022

DEPARTMENT OF ENVIRONMENTAL SCIENCE

IN ASSOCIATION WITH

SIES-IIEM, NERUL, NAVI MUMBAI

29th April 2023

BOARD OF STUDIES MEETING

Agenda

1. Review and suggestions for **SYBSc (EVS)** syllabus for the academic year 2023-24 prepared under **non-NEP pattern** for the students enrolled in 2022-23.
2. Review, suggestions and approval of **FYBSc (Environmental Science – Major) and (Biological and Chemical Sciences – Minor)** syllabus for the academic year 2023-24 prepared according to the **NEP format** for the students enrolling in 2023-24.

BOS Committee members (message conveyed through email)

1. Dr. Uma Shankar - Principal, SIES ASC, Sion (W)
2. Dr. V. Vishnuprasad - Chairperson
3. Dr. Seema Mishra - Chairman
4. Dr. Ramesh Madav - Member (Industry)
5. Dr. Prashant Bhawe - Member (Faculty, UOM)
6. Dr. Jyoti Koliyar - Member (Faculty, UOM)
7. Dr. Suman Rani – Member
8. Dr. Amrita Dutta – Member
9. Ms. Nikita Ubbu – Member (Alumnus)
10. Dr. Satish Sarfare – Member
11. Dr. Mahavir Gosavi, - Member
12. Mr. Shekar Aiyar – Member
13. Mrs. Pooja Sawant – Member
14. Miss Akshaya Bhosale – member

Meeting of Environmental Science Board of Studies, 2022-23

Minutes




Principal
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Sion (West), Mumbai - 400 022.

Date: 26th April, 2023 (Wednesday)

The minutes of the environmental science board of studies meeting held on 26th April, 2023, at 11:00 am in Principal's cabin and online on MS Teams platform, for the reviews and suggestions of FYBSc syllabus under NEP pattern and SYBSc syllabus under non-NEP pattern for the academic year 2023-24.

Members present offline -

1. Dr. V. Vishnuprasad - Chairperson
2. Dr. Prashant Bhawe - Member (Faculty, UOM)
3. Dr. Satish Sarfare – Member
4. Dr. Mahavir Gosavi - Member
5. Mr. Shekar Aiyar – Member
6. Mrs. Pooja Sawant – Member
7. Miss Akshaya Bhosale – member

Members present online –


1. Dr. Seema Mishra - Chairman
2. Dr. Ramesh Madav - Member (Industry)
3. Dr. Jyoti Koliyar - Member (Faculty, UOM)
4. Dr. Suman Rani – Member
5. Dr. Amrita Dutta – Member
6. Ms. Nikita Ubbu – Member (Alumnus)

Members granted leave of absence –

1. Dr. Uma Shankar - Principal, SIES ASC, Sion (W)

1. The meeting commenced in hybrid mode with the introduction of the attending members followed by presenting the agenda of the meeting.
2. The review and discussion of SYBSc EVS syllabus (under non-NEP pattern) was started first, with the Coordinator and Chairperson, Dr. V. Vishnuprasad, explaining the outline of the syllabus pattern and credit distribution. Each paper was then read out subsequently, with the members giving suggestions wherever required. All the suggestions were noted down appropriately for further consideration.
3. Dr. Prashant Bhawe was of the opinion that the credits allotted to the course and the marks should be justified across the syllabus to which Vice Principal Dr. Satish Sarfare responded that the institution





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is working on the same and a final grid will be decided at the earliest, which will be conveyed to the BOS members.

4. Vice Principal Dr. Satish Sarfare suggested reframing “Credit Based Semester and Grading syllabi” to “Choice Based Credit System (CBCS)” in the front page of the syllabus.
5. In the SYBSc syllabus the credit column was not required as it was creating confusion so need to be removed was suggested by all the members present offline.
6. The current course codes SIUSENVTP and SIUSEVSP may create ambiguity hence, Vice Principal Dr. Satish Sarfare and Dr. Mahavir Gosavi were of the opinion that they can be changed post facto for SYBSc to SIUSEVST and SIUSEVSP for theory and practical papers, respectively.
7. Dr. Mahavir Gosavi suggested that in the syllabus for practicals, instead of notional hours it can be mentioned as hours and all the members agreed to the same.
8. Dr. Mahavir Gosavi and Mr. Shekar Aiyar were of the opinion that the number of practicals need to be increased. Dr. Prashant Bhave and Dr. Satish Sarfare suggested adding tutorials and relevant case studies under practicals.
9. Mr. Shekar Aiyar suggested including one practical on “Estimation of Phenol by bromination” in the paper on ‘Natural resource management’.
10. Mr. Shekar Aiyar was of the opinion that practicals like BOD, COD can be included in this syllabus. But Mrs. Pooja Sawant mentioned that those practicals have already been added further in semester III under Environmental Pollution Control and Management I course.
11. Mr. Shekar Aiyar also suggested Winkler’s Light and Dark bottle method experiment, but the same was covered in First year syllabus as expressed by Dr. V. Vishnuprasad.
12. Dr. Satish Sarfare recommended a reference book to be added in the references, namely, Ecological Methods by P. Mickael.
13. Dr. Prashant Bhave highlighted a correction in the title of unit I in the Environmental Pollution Control and Management I, as it covers only air related content it should be titled as introduction to air pollution.
14. Dr. Mahavir Gosavi, recommended to mention all the references in APA format. 15. Dr. Mahavir Gosavi was of the opinion that unit I under Biostatistics seems to be very lengthy which may require more than 15 lectures on which Dr. Satish Sarfare suggested that some of the topics can be added under practicals and those topics can be explained and the problems based on it can be solved during the practical sessions.
16. Dr. Mahavir Gosavi recommended a Textbook R.J Sharma, FYBSc Statistics, for the Biostatistics course.
17. Under unit III of Research Methodology, the topic like types of research report can be heavy for the




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students at undergraduate level, so instead of those topics, writing an abstract, types of abstract, styles of citation, references can be added as suggested by Dr. Satish Sarfare. He also gave the opinion that the difference between Harvard Style and Numeric style need to be mentioned and plagiarism can be added under ethics.

18. Dr. Seema Mishra was of the opinion that under the Pollution Control and Management II the practical Phosphate estimation and P_2O_5 seems repetitive, instead she suggested SAR value practical can be added.
19. Dr. Satish Sarfare advised to remove LD_{50} as the lethal dose testing on animal will go against animal ethics and even a recommended a book Casarett and Doull's Toxicology: Basic Laws of Poison, which can be recommended for even students to read and write a book review of the same.
20. Dr. Prashant Bhave suggested Bioassay as a practical which can be added under toxicology. 21. Dr. Prashant Bhave suggested Global Harmonized System for Pictogram Purple book of UN which can be introduced under unit I of Biohazard and Biosafety course.
22. Dr. Vishnu Prasad asked for suggestion of practicals to be included under Biohazard and Biosafety. Dr. Satish Sarfare responded suggesting Disposal of electrophoretic gels/ carcinogenic compounds. 23. Dr. Seema Mishra was of the opinion that under Kyoto and Paris agreement there should be mention of UNFCCC.
24. Dr. Prashant Bhave gave the opinion that environment related software can be introduced to the students under computer application system course, which will help them in future research. 25. Dr. Satish Sarfare suggested that mention each practical paper carrying 50 marks in the scheme instead of total 300 marks.
26. For Elective course on Ecotourism in FYBSc, Dr. Satish Sarfare suggested including bread and breakfast scheme introduced by government to encourage ecotourism.
27. Also, the members were of the opinion that under ecotourism course there should be field visits conducted to some of the nearby sites.
28. The grid of syllabus according to the NEP pattern was accepted by the BOS members and for any further changes, it will be intimidated all the members.
29. Dr. Jyoti Koliyar requested both the syllabus copies to be emailed to all the BOS members, which was duly accepted.
30. The meeting ended with a thank you note by Chairperson Dr. V. Vishnu Prasad.




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Dr. V. Vishnu Prasad
Coordinator, EVS

SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)
Composition of Board of Studies
For Post Graduate Diploma- Food Technology and Nutraceuticals

2019-20

1	Chairperson	Dr Deepali Kothekar – Associate Professor and Head Dept. of Biochemistry; Co-ordinator-Food Technology and Nutraceuticals
2	Subject Experts	1. Dr Nilesh Amritkar -MD Envirocare Labs, Thane
		2. Dr Geeta Ibrahim- Principal, Nirmala Niketan College of Home Science, Churchgate
		3. Mr Sandeep Gupta- Expert Nutraceutical Advocacy (ENAC) Founder and representative
		4. Ms Ranjitha Balkrishnan- Alumnus and ENAC representative
3	In-house Faculty	1. Ms Mayuri Bane
		2. Dr. Sandhya Nambiar
		3. Ms Suveera Bellary




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DEPARTMENT OF BIOCHEMISTRY
PG Diploma in Food Technology and Nutraceuticals

Minutes of the First BOS Meeting held on 27th April 2019

- The meeting of the Board of Studies in Food Technology and Nutraceuticals was held on, 27th April 2019 at 11.00 am in the college premise.
- The meeting was preceded by Chairperson Dr Deepali Kothekar, Head, Department of Biochemistry and Co-ordinator, Food Technology and Nutraceuticals.
- Following members participated in the meeting
 - ENAC Representative : Mr Sandeep Gupta, Director, Expert Nutraceutical Advocacy Council
 - Subject Expert : Dr Nilesh Amritkar MD Envirocare Labs Pvt Ltd.
 - Subject Expert : Dr Geeta Ibrahim Principal, Nirmala Niketan college of Home Science
 - SIES alumnus & ENAC Member: Ms Ranjitha Balkrishnan Sr. Manager Geltec Pvt Ltd.
 - Faculty : Dr Sandhya Nambiar
- The proposed syllabus and evaluation pattern for PG Diploma in Food Technology and Nutraceuticals was shared with the BOS members. Dr. Deepali presented the proposed syllabus for theory and practical.
- The proposed syllabus and evaluation pattern was then deliberated and approved with changes as suggested by the BOS members.

Following were the suggestions put forth by the BOS members:

- 1) Paper I -Unit II, III & IV should be activity based in the form of project and should be evaluated under internal assessment.
- 2) Guest lectures of industry expert to be arranged for nutraceuticals , regulatory aspects of food and nutraceuticals
- 3) Students to be assigned activity and making compendium/monograph of selected active ingredients and should be evaluated under internal assessment
- 4) It was decided to familiarize the students with licensing and regulatory aspects of food and nutraceuticals through visits and guest lectures.

The meeting concluded at 1.30 pm

Deepali Kothekar

27th April 2019
Dr. Deepali K. Kothekar
Chairperson, BOS- Food Technology and Nutraceuticals



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SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)
Composition of Board of Studies
For Post Graduate Diploma- Food Technology and Nutraceuticals

2020-21

1	Chairperson	Dr Deepali Kothekar – Assistant Professor and Head Dept. of Biochemistry; Co-ordinator-Food Technology and Nutraceuticals
2	Subject Experts	1. Dr Nilesh Amritkar -MD Envirocare Labs, Thane
		2. Dr Geeta Ibrahim- Principal, Nirmala Niketan College of Home Science, Churchgate
		3. Mr Sandeep Gupta- Expert Nutraceutical Advocacy (ENAC) Founder and representative
		4. Ms Ranjitha Balkrishnan- Alumnus and ENAC representative
3	In-house Faculty	1. Ms Mayuri Bane
		2. Dr. Sandhya Nambiar
		3. Ms Suveera Bellary

Kothekar..

Dr Deepali Kothekar
Co-ordinator, Food Technology and Nutraceuticals



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**SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS) SION
(W), MUMBAI – 400022 DEPARTMENT OF BIOCHEMISTRY**

PG Diploma in Food Technology and Nutraceuticals

Minutes of the Second BOS Meeting held on 26th September 2020

- The meeting of the Board of Studies in Food Technology and Nutraceuticals was held on, 26th September 2020 at 3.00 pm virtually through MS Teams.
- The meeting was preceded by Chairperson Dr Deepali Kothekar, Head, Department of Biochemistry and Co-ordinator, Food Technology and Nutraceuticals
- Following members participated in the meeting
 - ENAC Representative : Mr Sandeep Gupta, Director, Expert Nutraceutical Advocacy Council
 - Subject Expert : Dr Nilesh Amritkar MD Envirocare Labs Pvt Ltd.
 - Subject Expert : Dr Geeta Ibrahim Principal, Nirmala Niketan college of Home Science
 - SIES alumnus & ENAC Member: Ms Ranjitha Balkrishnan
 - Faculty: Dr Sandhya Nambiar
 - Faculty: Ms. Mayuri Bane
- The minutes of first BOS meet held on 27th April, 2019 were reviewed and approved by all the BOS members.
- Dr. Deepali shared the report of the academic activities conducted for the year 2019-2020 and gave a brief overview about the placement of students for Internships and Jobs with the help of ENAC and Envirocare Labs.
- Dr. Deepali discussed about fulfilment of the program objectives set forth and feedback received on the syllabus and suggestions obtained from the students of academic year 2019-2020.
- Ms. Mayuri Bane briefly presented the proposed changes in the theory syllabus and introduction of new course of Food Regulatory and Quality Management System in Paper 3.
- The proposed syllabus was then deliberated and approved with changes as suggested by the BOS members.
- Dr. Deepali presented the minor changes in the practical syllabus which was approved by the BOS members.
- Dr. Deepali proposed for the approval and ratification of allotment of seats for industry candidates.
- A resolution was passed for the allotment of seats for industry candidates after deliberation and approval of the BOS members.

Following were the suggestions put forth by the BOS members:

- 1) To emphasize on the National and International rules and regulations for food and nutraceutical products labelling.
- 2) To introduce the topic of Metrology and Weights and measures in Paper 3 - Unit 1.
- 3) To introduce the rules and regulations for exporting food and nutraceutical products in accordance with regulatory authorities like EIC and APEDA in Paper 3 – Unit 3.





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- 4) It was suggested to incorporate Digital Skills in the syllabus along with existing soft skills in Paper 3 – Unit 4.
- 5) Guest lectures by industry experts to be arranged for in depth and practical knowledge of Export regulations, Dossier and CTD preparation, and Safety Standards of food and nutraceutical products.

Dr. Deepali K. Kothekar

Chairperson BOS –Food Technology and Nutraceuticals




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SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)
Composition of Board of Studies
For Post Graduate Diploma- Food Technology and Nutraceuticals

2021-22

1	Chairperson	Dr Deepali Kothekar – Assistant Professor and Head Dept. of Biochemistry; Co-ordinator-Food Technology and Nutraceuticals
2	Subject Experts	1. Dr Nilesh Amritkar -MD Envirocare Labs, Thane
		2. Dr Geeta Ibrahim- Principal, Nirmala Niketan College of Home Science, Churchgate
		3. Mr Sandeep Gupta- Expert Nutraceutical Advocacy (ENAC) Founder and representative
		4. Ms Ranjitha Balkrishnan- Alumnus and ENAC representative
3	In-house Faculty	1. Ms Mayuri Bane
		2. Dr. Sandhya Nambiar
		3. Ms Suveera Bellary

Dr Deepali Kothekar

Dr Deepali Kothekar
Co-ordinator, Food Technology and Nutraceuticals



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SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)

Department of Biochemistry and Food Technology and Nutraceuticals

PG Diploma- Food Technology and Nutraceuticals

Minutes of the Third BOS Meeting held on 14th June 2021

- The meeting of the Board of Studies in Food Technology and Nutraceuticals was held on, 14th June 2021 at 3.00 pm virtually through MS Teams.
- The meeting was preceded by Chairperson Dr Deepali Kothekar, Head, Department of Biochemistry and Co-ordinator, Food Technology and Nutraceutical
- Following members participated in the meeting
 - ENAC Representative: Mr Sandeep Gupta, Director, Expert Nutraceutical Advocacy Council
 - Subject Expert: Dr Nilesh Amritkar MD Envirocare Labs Pvt Ltd.
 - Subject Expert: Dr Geeta Ibrahim Principal, Nirmala Niketan college of Home Science
 - SIES alumnus & ENAC Member: Ms Ranjitha Balkrishnan
 - Faculty: Dr Sandhya Nambiar
 - Faculty: Ms. Suveera Bellary
 - Faculty: Ms. Mayuri Bane
- The minutes of second BOS meet held on 26th September 2020 were reviewed and approved by all the BOS members.
- **No changes** in the syllabus were proposed for the Academic year 2021-2022 and same was approved by all the BOS members.
- Dr. Deepali shared the report of the academic activities conducted for the year 2020-2021 and gave a brief overview about online workshops and webinars organized for the students.
- Dr. Deepali gave a review of the feedback received on the curriculum from the students of the academic year 2020-2021 and discussed in detail about the responses and suggestions obtained from them on the same.

Following were the suggestions put forth by the BOS members:

1. Mr. Sandeep Gupta suggested to emphasize on encouraging students to take up Internship opportunities in various projects which are focused on developing analytical profiles of nutraceutical products.
2. To arrange Career guidance and Job opportunities webinar for students by Industry experts which will help them to build a road map towards their desirable careers after completing the course.
3. To conduct the practicals through virtual labs in the pandemic situation to help students understand actual working of Instruments and techniques used in analysis. This can be done in collaboration with laboratories such as Envirocare Labs Pvt Ltd, Perkin Elmer etc.
4. To arrange webinar on "Sustainable Laboratory Building" and also include sustainable development goals as a part of academics.
5. To develop a Sensory Evaluation module with the help of Dr. Nilesh Amritkar.

Dr. Deepali Kothekar
15/06/21

Chairperson
Dr Deepali Kothekar



Dr. Geeta Ibrahim
Principal

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SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS)
Composition of Board of Studies
For Post Graduate Diploma- Food Technology and Nutraceuticals
2022-23

1	Chairperson	Dr Deepali Kothekar – Associate Professor and Head Dept. of Biochemistry; Co-ordinator-Food Technology and Nutraceuticals
2	Subject Experts	1. Dr Nilesh Amritkar -MD Envirocare Labs
		2. Dr Shweta Singh- Senior Project Manager- NPI(New Product Introduction) & Strategy at Abbott Nutrition International
		3. Ms Sukhada Bhatte- Assistant General Manager- Regulatory and Nutrition Affairs
		4. Ms Ranjitha Balkrishnan- Alumnus and ENAC representative
		5. Mr Sandeep Gupta- ENAC Founder and representative
		6. Mr Nilesh Lele- CASMB founder and representative
3	Faculty	1. Ms Kriti Pant
		2. Ms Kanika Gangapuram
		3. Ms Suveera Bellary

Deepali Kothekar

Dr Deepali Kothekar

Co-ordinator-Food Technology and Nutraceuticals

Suresh
Principal

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SIES College of Arts, Science, and Commerce, Autonomous, Mumbai

Department of Biochemistry- Food Technology and Nutraceuticals

Minutes of the BOS meeting for PGDFTN held on 6th August, 2022

Minutes of the board of studies meeting held on 6th August, 2022 at 3 PM via virtual meeting through MS teams

- The meeting was attended by the following members
 1. Dr. Deepali Kothekar (Chairperson)
 2. Dr Shweta Singh (Sr. Project manager, Abbott Nutrition)
 3. Dr. Nilesh Amritkar (MD Envirocare labs)
 4. Mr. Nilesh Lele (Director-Chamber for Advancement of Small and Medium Scale Businesses)
 5. Ms Ranjitha Balan (Alumnus and representative of Expert Nutraceutical Advocacy Council)
 6. Ms Kriti Pant (Faculty- Food Technology and Nutraceuticals)
 7. Ms Kanika Gangapuram (Faculty- Food Technology and Nutraceuticals)
 8. Ms Suveera Bellary (Faculty-Biochemistry)

Dr. Sukhada Bhatte was granted leave of absence.

- The minutes of the previous BOS meeting conducted on 18th June 2021, were shared and approved by the members
- Chairperson, Dr Deepali Kothekar briefed the Board members with the academic activities, implementation of syllabus, conduct of examination and Students' feed back report during the academic year 2021-22.
- The execution of the syllabus, engagement of students in workshops and other academic activities were well appreciated by board member Dr. Nilesh Amritkar.
- Mr Nilesh Lele suggested to obtain curriculum Feedback data from the alumni/recently passed students. Dr Amritkar suggested to collect Feedback data on internship as well.
- Chairperson shared the proposed change in syllabus of Post Graduate Diploma Food Technology and Nutraceuticals, from the existing annual pattern to semester pattern. The total credits assigned for two semesters will be 48 (24 credits for each semester) with 8 additional credits for completing three months internship (after semester 2 examination)
- Board members approved the two-semester syllabus of Post Graduate Diploma-Food Technology and Nutraceuticals, with few changes, for implementation from the year 2022-23
- Chairperson then shared the proposal of transforming the existing one year Post Graduate Diploma in Food Technology and Nutraceuticals to a two-year Masters (MSc) in Food Technology and Nutraceuticals from the year 2023-24




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After deliberation and in consensus with the members, following features of the new masters program were approved.

1. Title of the program: MSc – Food Technology and Nutraceuticals
 2. Duration : Two years
 3. Exit Option: Student can avail exit after one year (i.e.after two semesters). On successful completion of two semesters of Classroom learning and three months internship, the student will be awarded Post Graduate Diploma-Food Technology and Nutraceuticals. On successful completion of four semesters (two years), the student will be awarded MSc-Food Technology and Nutraceuticals
 4. Fourth semester of this master's program will be a research project/industry project/internship/in-plant training. Evaluation of this project/internship will be done by a panel comprising of the Course co-ordinator, faculty-in-charge and Supervisor from the industry. The student will have to submit a detailed report and defend the work by presenting it to the panel.
 5. Past students who have successfully completed one year Post Graduate Diploma - Food technology and Nutraceuticals will be eligible to apply directly for the second year of MSc- Food Technology and Nutraceuticals program from the year 2024-25. However, this provision will be subject to the vacant seats available in Semester 3 (of MSc program) of the respective year.
- Framework of the syllabus for two-year (Four semesters) Masters program in Food Technology and Nutraceuticals was shared, deliberated, and approved.
 - Detailed syllabus for first two semesters of Masters program was discussed and approved with minor changes. Broad outline of semester 3 was discussed. Credits proposed per semester were 36 credits.
 - For semester 4 Industry Project, all the members came to consensus that Semester 4 for the MSc course should be a project in an industry as this would be the right time for transition from classroom to industry. It was suggested that students could work on a project during their internship which may be evaluated by an Industry expert. Also, students may present their work in class with freshers as their audience, for them to gain more experience.
 - Dr. Shweta Singh suggested the addition of a few topics related to the study of Flavor, Sugar alternatives, ISO:17025 (NABL Accreditation) and the latest regulations.
 - Examination or a class test once a week was suggested as a form of constant evaluation.
- The meeting concluded at 5.30 pm.

Dr. Deepali K. Kothekar

Dr. Deepali K. Kothekar
Chairperson



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University of Mumbai

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Mumbai - 400 032.



26/9/18 September, 2018.

Th./ICD/2018-19/ 2794

✓ The Principal,
SIES College of Arts, Science & Commerce,
Sion (W).
Mumbai - 400 022.

Sub :- Your Proposal for **Extension of Recognition** to enroll students for **M.Sc.(By Research) & Ph.D.(Science & Technology)** degree course in the subject of **Biotechnology** from the Academic Year 2016-17.

Ref. :- Your letter No.3481, dated 22nd July, 2016.

Madam / Sir.

With reference to the subject above, I am directed by the Hon'ble Pro-Vice-Chancellor to inform you that the report of the Local Inquiry Committee for **Extension of Recognition** for the **M.Sc.(By Research) & Ph.D.(Science & Technology)** degree course in the subject of **Biotechnology** was placed before the Board of Deans at its meeting held on **11th June, 2018**, vide item No.19, when it was resolved as under :-

"be granted extension of recognition to enroll 5 students together, for the M.Sc.(By Research) & Ph.D.(Science) degree in the subject of Biotechnology from the Academic Year 2018-19 (instead of 2016-17) subject to yearly review of compliance of conditions stipulated by LIC & recovery of dues towards recognition fees, if any & the same be recommended to Vice-Chancellor for his consideration & approval."

Pursuant to the above resolution of the Board of Deans, I am to inform you that the College/Institute has been granted permission for **Extension Recognition** to enroll (5) five students taken together for the **M.Sc.(By Research) & Ph.D.(Science & Technology)** degree course in the subject of **Biotechnology** from the Academic Year to 2018-19.

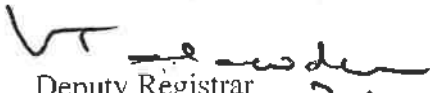
The Local Inquiry Committee in its report recommended the following conditions:-

- 1) Provide separate Computer library for Research Students.
- 2) Add a separate laminar Air flow (LAF) for ATC facility.
- 3) Make Research Lab AC.
- 4) Make a provision of Rs.10,000/- student per year & provide separate glassware for each student.

You are therefore requested to comply with the aforesaid conditions recommended by the Local Inquiry Committee and submit your report in the matter, at the earliest, failing which the matter will be reported to University Authorities.

Further, you are also requested to submit the proposal for continuation of recognition for the academic year 2019-20 onwards, on or before 30th September, 2018.

Yours,


Deputy Registrar
(Thesis Section) 26/9/18

Copy to -

1. The Jt. Director, Higher Education, Maharashtra State, Mumbai Region, Elphinstone Technical High School Building, Mahapalika Marg, Mumbai - 400 001.
2. The Assistant Registrar, A.P.D. Section, for information and it may be treated as an action taken report on the resolution of vide item No.19 of the Board of Deans meeting held on 11th June, 2018.
3. The Co-Ordinator, University Computerisation Centre, University of Mumbai, Idol Building, Vdyanagari, Kalina, Mumbai - 400 098.

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DEPARTMENT OF BIOTECHNOLOGY

Board of studies- Minutes of the meeting

Date: 23.06.2018

Time: 10.00 am

Venue: Undergraduate Lab, Dept. of Biotechnology, SIES College of Arts, Science and Commerce.


The board of studies meeting was conducted at the UG laboratory at 10.00 am on 23rd July 2018 for discussing and finalizing the F.Y, S.Y and T.Y autonomous syllabus (2018-19).

The meeting was attended by Dr. Thankamani Marar (Dean, School of Biotechnology and Bioinformatics, D.Y. Patil University), Dr. Swati Jadhav (Gencrest, Ajanta Pharma, Andheri), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Sneha Panvalkar (Head, Dept of Biotechnology, G.N Khalsa College, Matunga), Dr. Deepali Kharkhanis (Head, Department of Biotechnology, Vaze College, Mulund), Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members at the department. The attendance record is attached herewith. A copy of the details of the syllabus to be discussed and university syllabus was provided for reference.

The session was initiated by Dr. Tara Menon, who welcomed the members and introduced them to the University syllabus and exam pattern. The first session of the meeting started with detailed discussion of the F.Y.BSc Autonomy Syllabus by Dr. Richa Singh. The old and the new syllabus were compared. Few topics were interchanged from Semester I to Semester II and vice-versa for a smoother transition between topics. In addition to the changes made, the board members suggested few more topics to be added for the industrial perspective. It was suggested to include irradiation methods, Nutraceuticals, Food packaging and processing techniques and application of enzymes and buffers.

Few changes were also suggested with respect to practicals such as Comparative study of growth curve of two different organisms. The evaluation pattern was also discussed.




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This was followed by discussion of S.Y.BSc syllabus by Ms. Vibha Udyawar. Few deletions were made in order to avoid repetition with F.Y Syllabus. Few addition were made to the existing topic for enhancing the knowledge of the students. The Board members suggested following additions such as effector response of immune system, banding techniques etc. In addition to the regular bioinformatics practicals, the students would be given training on basic computer skills like MS excel, Power point etc

T.Y.BSc syllabus was discussed by Dr. Tara Menon. The topics already covered in S.Y and proposed M.Sc (Part I) syllabus were replaced that included Vaccines instead of Spectroscopy. Suggestion for T.Y.BSc practicals were made for inclusion of Replica plate technique, RFLP, PCR, Phenol Coefficient, food adulterant analysis etc.

MSc (Part I) and MSc (Part II) were also discussed. Paper II on Immunology was rearranged and structured. The Paper III of Molecular Biology was spread across two semester instead of one which was approved by the board members. The entire paper IV on Biosafety was deleted as it was already being covered in the proposed T.Y.BSc syllabus. MSc (Part II) syllabus was left untouched.




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Tara Menon
11/1/19

DEPARTMENT OF BIOTECHNOLOGY

ATTENDANCE SHEET

Board of studies meeting conducted at UG laboratory at 2.00 pm on 29.06.2019

Sr. No.	Name	Signature
1.	Dr. Thankamani Marar (Dean, School of Biotechnology and Bioinformatics, D.Y. Patil University)	
2.	Dr. Savita Kulkarni (Associate Professor, Department of Life Sciences, HBNI, Anushakti Nagar)	
3.	Dr. Swati Jadhav (General, Ajanta Pharma, Andheri) Advanced enzymes Ltd. Thane	<i>Swati Jadhav</i>
4.	Mr. Nikhil Kadalag (PhD Scholar, DBT-ICT Centre for Energy Bioscience, ICT, Mumbai)	<i>Nikhil Kadalag</i> 29/6/19
5.	Dr. Sneha Panvalkar (Head, Dept of Biotechnology, G.N.Khalsa College, Matunga)	<i>Sneha Panvalkar</i> 29.6.19
6.	Dr. Deepali Karkhanis (Head, Dept of Biotechnology, Vaze College, Mulund)	
7.	Dr. Varsha Mane Kelkar (Head, Dept of Biotechnology, University of Mumbai)	
8.	Dr. Tara Menon (Chairperson)	
9.	Dr. Subi Yoosuf (Member)	<i>Subi Yoosuf</i>
10.	Mr. Pramod Kamble (Member)	<i>Pramod Kamble</i>
11.	Mr. Prajith Nambiar (Member)	<i>Prajith Nambiar</i>



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12.	Ms. Anju James (Member)	(Anju)
13.	Dr. Richa Singh (Member)	Richa
14.	Ms. Vibha Udyawar (Member)	Vibha
15.	Ms. Priti Pandit (Member)	Pandit
16.	Ms. Archana Nambiar (Member)	Nambiar



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DEPARTMENT OF BIOTECHNOLOGY

Board of studies- Minutes of the meeting

Date: 29.06.2019

Time: 2.00 pm

Venue: Board room, SIES College of Arts, Science and Commerce.

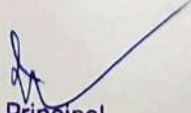
The board of studies meeting was conducted in the board room at 2.00 pm on 29th June 2019 for discussing and finalizing the F.Y, S.Y, T.Y, MSc part I and II autonomous syllabus (2019-20).

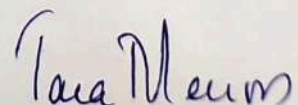
The meeting was attended by Dr. Swati Jadhav (Scientist, Advanced Enzymes), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Sneha Panvalkar (Head, Dept of Biotechnology, G.N Khalsa College, Matunga), Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members of the department. A copy of details of the syllabus to be discussed and first year autonomy syllabus was provided for reference.

The session was initiated by Dr. Tara Menon, who welcomed the members and read out minutes of the meetings for previous BOS. The first session of the meeting started with detailed discussion of the undergraduate autonomy syllabus by Dr. Tara Menon. Few deletions were made in order to avoid repetition. Some additions were made to the existing topic with respect to entrance examinations. All the changes proposed by us were accepted by the board members. The board members suggested changing the name of blue green algae mentioned in the FYBSc syllabus to cyanobacteria and to incorporate Urea estimation from milk in TYBSc practical syllabus.

This was followed by detailed discussion of MSc syllabus by Dr. Subi Yoosuf. DNA topology was introduced in semester I and IPR in semester IV; Biostatistics and Bioinformatics papers were shifted to semester III from semester IV considering its importance in dissertation. Topics under Biostatistics and Bioinformatics have also been re-organized to give it a better flow. These changes were approved by the board members. The board members suggestions were to include method development for Gas Chromatography and Signal peptide detection in MSc Part I practical syllabus, and application oriented study of synthetic biology in the theory syllabus. These suggestions shall be incorporated from the current academic year.




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DEPARTMENT OF BIOTECHNOLOGY

Board of Studies – Minutes of the meeting

Date : 07.09.2020

Time : 3.00 PM

The board of studies meeting was conducted Online using MS Teams Platform at 3.00 PM on 07th Sept, 2020 for reviewing the FYBSc, SYBSc, TYBSc, M.Sc. part I and II autonomous syllabus (2020-21).

The meeting was attended by Dr. Savita Kulkarni (Associate Professor, Department of Life Sciences, HBNI, Anushakti Nagar), Dr. Deepali Karkhanis (Head, Department of Biotechnology, Vaze College, Mulund), Dr. Thankamani Marar (Dean, School of Biotechnology and Bioinformatics, D.Y. Patil University), Dr. Varsha Kelkar-Mane (Head, Department of Biotechnology, University of Mumbai), Dr. Swati Jadhav (Scientist, Advanced Enzymes), Dr. Sneha Panvalkar (Head, Dept of Biotechnology, G.N Khalsa College, Matunga), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members of the department.

The session was initiated by Dr. Tara Menon, who welcomed the members and read out agenda of the current BOS and minutes of the meeting of previous BOS meeting held on 31st Jan, 2020. The session started with discussion of the undergraduate syllabus by Dr. Subi Yoosuf. No changes were suggested by the members for existing FYBSc and SYBSc theory syllabus. In the TYBSc syllabus, Dr. Varsha Kelkar suggested the deletion of certain units from the topic of Endocrinology as they were being dealt with in detail in the post graduate syllabus.

Due to the current constraints in conducting laboratory work, the practical topics were categorized into doable (through videos, animations, simulations or virtual lab) and non-doable (using online setup).

For Sem III SYBSc practicals, the internal practical component was decided to be Submission of a book review (Biography of a Scientist or Nobel Laureate) preferably using a paper and pen method (Image of the written assignment to be scanned and send via email). Sem IV internal assessment for practical would include Power Point presentation on any Biotech startup industry. Introduction of Analysis for Fluorescent Sequencing Methods was suggested for Sem V practicals,



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with submission of a project proposal as the internal component. If the current Covid-19 crisis were to persist till Sem VI the wet lab project would be replaced by a project on Bioinformatics or survey-based research using Biostatistics.


The BOS members raised their concern about all the students having good internet facilities and computer for accessing practical videos. It was suggested to have a survey using Google form about the same. Considering the current situation and student's understanding level of practical through videos, Dr. Varsha Kelkar suggested deletion of those practicals which are not related to theory.

MSc syllabus was presented by Dr. Richa Singh. No changes were suggested for the theory syllabus. Practical syllabus was categorized as mentioned above (same as UG syllabus).

The BOS members also suggested, performing simple practicals like sauerkraut preparation (from Sem II) at home examining its physical changes with time. It was opined that for the dissertation which forms a part of Sem IV practical, the students could be given an option of Online Internship or submission of Review Article and Project proposal along with an eight-week NPTEL course.

The meeting ended with a formal vote of thanks by Dr. Tara Menon.




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DEPARTMENT OF BIOTECHNOLOGY

Board of Studies – Minutes of the meeting

Date: 02.06.2021

Time: 4.00 PM

The board of studies meeting was conducted Online using MS Teams Platform at 4.00 PM on 02nd June, 2021 for reviewing the FYBSc, SYBSc, TYBSc, M.Sc. part I and II autonomous syllabus (2021-22).

The meeting was attended by Dr. Savita Kulkarni (Associate Professor, Department of Life Sciences, HBNI, Anushakti Nagar), Dr. Deepali Karkhanis (Head, Department of Biotechnology, Vaze College, Mulund), Dr. Thankamani Marar (Dean, School of Biotechnology and Bioinformatics, D.Y. Patil University), Dr. Varsha Kelkar-Mane (Head, Department of Biotechnology, University of Mumbai), Dr. Swati Jadhav (Scientist, Advanced Enzymes), Dr. Sneha Panvalkar (Head, Dept of Biotechnology, G.N Khalsa College, Matunga), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members of the department.

The session was initiated by Dr. Tara Menon, who welcomed the members and read out Agenda of the current BOS and minutes of the meeting of previous BOS held on 7th August, 2020. Survey results of Feedback on curriculum by UG and PG students were presented.

The modifications made in the undergraduate syllabus was explained by Dr. Subi Yoosuf. Briefly, In the course SIUSBT12- Bioorganic Chemistry, Lipids which formed a part of Unit I will be shifted to Unit III. Few topics like Isomers of monosaccharides, Mutarotation, Concept of epimers and anomers, Structural and functional polysaccharides, Glycoproteins and proteoglycans were added to Unit I. Accordingly the title of Unit I and Unit III would be changed to Carbohydrates and 'Nucleic acids and Lipids' respectively. Further, the Biostatistics component from Course SIUSBT26 will be shifted to SYBSc and continue upto TYBSc level in order to help the students apply Biostatistics in their TYBSc research projects. The unit of Biostatistics in Course SIUSBT26 will be replaced by the new unit, Applications of Enzymology and Immunology' 'which will include topics like Applications of enzymes in various industries, Immobilized enzymes, Vaccines, Monoclonal and Polyclonal antibodies and its applications. In



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the Practical syllabus of FYBSc, the problems based on Biostatistics 'will be replaced by the experiment on Encapsulation of yeast and Estimation of Invertase activity. These changes were approved unanimously by the members of the Board of Studies.

In TYBSc few changes were incorporated in SIUSBT51. Unit IV of this paper was modified to include few topics on Cancer Immunology like Types and causes of cancer, Oncogenes, Tumour suppressor genes, Tumor antigens and markers, Immunotherapy. Dr. Savita Kulkarni suggested addition of few more topics like Signal transduction pathways in Cancer, CD antigens, Cancer Stem cells and Flow Cytometry. The discussion on FYBSc, SYBSc and TYBSc theory and practical syllabus was followed by the presentation for the Online Evaluation Pattern.

MSc syllabus was presented by Dr. Richa Singh. No changes were proposed to the Theory and Practical syllabus. Taking into consideration the Student's Feedback on Curriculum and Evaluation pattern, few changes were proposed to the Internal Evaluation scheme. Instead of having Power point presentations for 40 marks, the BOS members suggested an Open Book Exam and Viva of 20 marks each. The Online Evaluation Pattern for the Semester End Examination through JUNO Portal and Practical exam pattern was also presented and discussed upon.

The Program Specific Outcomes and Course Outcomes included in the Syllabus was shared with the BOS members through E-mail. They were duly ratified by the BOS Members.

The meeting ended with a formal vote of thanks by Dr. Tara Menon.




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DEPARTMENT OF BIOTECHNOLOGY

Board of Studies – Minutes of the meeting

Date : 01.05.2023

Time : 4.00 PM

Venue : Online (MS Teams)

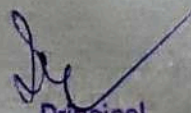
The board of studies meeting was conducted online via MS Teams at 4.00 PM on 1st May, 2023 for reviewing the T.Y. autonomous syllabus and FY NEP syllabus (2023-2024).

The meeting was attended by Dr. Deepali Kurkhanis (Head, Department of Biotechnology, Vaze College, Mulund), Dr. Thankamani Marar (Professor and Dean, School of Biotechnology and Bioinformatics, D.Y. Patil), Dr. Varsha Kelkar-Mane (Head, Department of Biotechnology, University of Mumbai), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Savita Kulkarni (Scientific Officer(H), TMH) Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members of the department.

The session was initiated by Dr. Tara Menon, who welcomed the members and read out minutes of the meeting for previous BOS held on 15th July, 2022. This was followed by discussion of the undergraduate TYBSc autonomy syllabus for the academic year 2023-24 by Dr. Subi Yoosuf. In Semester V, Cell Biology paper (SIUSBT51) topic on cell division controls in multicellular animals was introduced in Unit I (Cell cycle) and Artificial reproductive techniques was added in lieu of Model organisms in Unit III (Developmental Biology). In paper III, Genomics and molecular biology (SIUSBT53), few topics from SY related to PCR-Primer designing, control of PCR contamination, mispriming, and product cleanup were introduced. In view of the dissertation component in TY, we shifted entire Research Methodology (Paper IV-SIUSBT54) from Sem III to Sem V as proposed in the last BOS. Unit IV of the same paper was modified by adding topics on normal distribution, hypothesis testing and levels of significance. Marine biotechnology paper (SIUSBT54) was repositioned as Applied component paper in place of Biosafety (introduced in SY). The new paper code nomenclature for the same is SIUSBT55. Modifications were made in the practical to align with the proposed theory (Research paper poster presentation and biostatistics problems). In Semester VI, Paper SIUSBT61(Biochemistry), topics (Gluconeogenesis, PPP, Glyoxylate pathway, Reductive TCA) from SY were moved to Unit II.

This was followed by detailed discussion of FY (NEP) syllabus for the academic year 2023-24 by Dr. Tara Menon. As per NEP circular dated 20-04-2023, the basic grid for level 4.5 (Sem I and II) with a cumulative credit of 22 was discussed. The framework of the syllabus for Sem I/II under DSC (Discipline specific course) subject 1 (Basic biotechnology 1/Basic Biotechnology2), subject 2 (Bioorganic chemistry 1/Bioorganic chemistry 2), Open elective (OE – Food and nutrition/Forensic science), Ability enhancement course (AEC-English), value education course (VEC-Environmental Science/Understanding India), vocational skill course (VSC- Microbial




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Techniques/Biofertilizer production), skill enhancement course (SEC - Analytical Skills for Biotechnology students/Tissue culture) and Indian knowledge system (IKS) were presented.

The meeting concluded with the unanimous decision of proposed TY, FY (NEP) syllabus and MSc (NEP) to be emailed to all the BOS members for their valuable comments, suggestions and approval.

Tara Meurs

CO-ORDINATOR
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DEPARTMENT OF BIOTECHNOLOGY

Board of Studies – Minutes of the meeting

Date : 15.07.2022

Time : 2.30 PM

Venue : Online (MS Teams)

The board of studies meeting was conducted online via MS Teams at 2.30 PM on 15th July, 2022 for reviewing the S.Y. and M.Sc. autonomous syllabus (2022-2023).

The meeting was attended by Dr. Deepali Karkhanis (Head, Department of Biotechnology, Vaze College, Mulund), Dr. Varsha Kelkar-Mane (Head, Department of Biotechnology, University of Mumbai), Dr. Swati Jadhav (Scientist, Advanced Enzymes), Mr. Nikhil Kadlag (PhD Scholar, ICT, Mumbai), Dr. Tara Menon (Chairperson, Board of Studies) and the other faculty members of the department.

The session was initiated by Dr. Tara Menon, who welcomed the members and read out minutes of the meeting for previous BOS held on 23rd Dec, 2021. The first session started with discussion of the undergraduate SYBSc autonomy syllabus for the academic year 2022-23 by Ms. Vibha Ail. In Semester III, Research Methodology paper (Paper code SIUSBT37) is replaced with Biosafety paper from TYBSc. In view of the dissertation component in TY, we proposed Research Methodology to be incorporated in Sem V of TY from the next academic year. Few topics related to cytogenetics were moved to Paper 6 of Sem IV. In Semester IV, major changes have been done in Environmental Biotechnology paper where units were made more comprehensive with addition of topics such as, water and air microbiology, from old Mumbai University syllabus. Basic biostatistics (from FY 20-21) was added in Sem IV as discussed earlier and advanced biostatistics has been proposed to be incorporated in TY. Modifications were made in the practical to align with the proposed theory.

This was followed by detailed discussion of MSc syllabus for the academic year 2022-23 by Ms. Anju James. No major changes were made in MSc Part I syllabus. Disorders related to immunodeficiencies were spelled out. In Semester III, few topics added and spelled out in PTC & ATC, Medical Microbiology and Biostatistics. However, in Semester IV, some major changes were proposed: Topics related to nanotoxicology & patentability of biotechnology inventions added in Nanotechnology and IPR. Paper SIPSBT42 was changed to Enzyme Engineering,




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Biologics and GMO. Topics on pharmacovigilance and regulatory affairs were incorporated in Paper SIPSBT43 which was renamed to Clinical Studies and Regulatory Affairs. Developmental Biology paper has been replaced by Omics and Systems Biology as paper SIPSBT44. Practicals were modified as per the proposed theory.

The meeting concluded with the unanimous decision of proposed syllabus to be emailed to all the BOS members for their valuable comments and suggestions.

Tara Meun

CO-ORDINATOR
DEPARTMENT OF BIOTECHNOLOGY
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Meeting of the Board of Studies in Bioanalytical Sciences, SIES College of Arts, Science and Commerce (Autonomous), Sion (West), Mumbai. 400 022

Date: 23/03/19

Time: 2.00 pm

Venue: Board Room, Ground Floor

Agenda: Curriculum design, framing of the syllabi and approval of the two years full time course of M.Sc in Bioanalytical Sciences.

Members of the Board of Studies in Bioanalytical Sciences

- ✓ Dr. Satish Sarfare – Coordinator, Bioanalytical Sciences, Head, Department of Zoology (Faculty, SIES College) *Sarfare 23/3/19*
- ✓ Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College) *Tu 23/3/19*
- ✓ Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College) *P Roy 23/3/19*
- ✓ Professor (Dr.) Sunita Shailajan – Head, Department of Botany, Ruia College (Subject expert and University Nominee) *Sunita 23/03/19*
- ✓ Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University)
- ✓ Dr. Sasikumar Menon – Director TDM Lab, Faculty, Pharma Analytical Sciences, (Subject expert from outside the College) *Sasikumar 23/03/2019*
- ✓ Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
- ✓ Dr. Ajit Datar – Advisor, Shimadzu Analytical Pvt Ltd (Subject expert from outside the College) *Ajit*
- ✓ Dr. Kamalakar Sonawne – Consultant, Pharmaceutical Industry (Subject expert from outside the College) *Kamalakar*
- ✓ Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement) *Hemant*
- ✓ Dr. Juliet Victoria – Research Scientist, Terravana Group (Post graduate, Alumnus, SIES College)



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Minutes of the Meeting of Board of Studies in Bioanalytical Sciences

The first meeting of the Board of Studies in Bioanalytical Sciences was held in the Board Room (Ground floor) of SIES College of Arts, Science and Commerce (Autonomous), Sion (West), Mumbai on Saturday, 23rd March 2019 at 2:00 pm.

The agenda of the meeting was Curriculum design, framing of the syllabi and approval of the two years fulltime course of M.Sc in Bioanalytical Sciences.

Board members:

- Dr. Satish Sarfare – Coordinator, Bioanalytical Sciences, Head, Department of Zoology (Faculty, SIES College)
- Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College)
- Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College)
- Professor (Dr.) Sunita Shailajan – Head, Department of Botany, Ramnarain Ruia College (Autonomous) (Subject expert and University Nominee)
- Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University)
- Dr. Sasikumar Menon – Director TDM Lab, Faculty, Pharma Analytical Sciences, (Subject expert from outside the College)
- Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
- Dr. Ajit Datar – Advisor, Shimadzu Analytical Pvt Ltd (Subject expert from outside the College)
- Dr. Kamalakar Sonawne – Consultant, Pharmaceutical Industry (Subject expert from outside the College)
- Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement)
- Dr. Juliet Victoria – Research Scientist, Terravana Group (Post graduate, Alumnus, SIES College)

Dr. Savita Kulkarni, Dr. Naomita Dhume and Dr. Juliet Victoria could not attend the meeting due to prior commitments and had informed in advance about their leave of absence.

Minutes

Opening Remarks:

Dr. Satish Sarfare gave an introductory presentation wherein he mentioned that an interdisciplinary-multidisciplinary approach and inquiry-based learning concept are crucial for curriculum design. He also mentioned about Academic Autonomy received by the college (in the year 2018) which entitles certain privileges such as:

- ✓ Freedom to determine and prescribe our own courses of study and syllabi
- ✓ Restructure, Redesign and Refine the course/curriculum to make it locally relevant
- ✓ Implement innovative teaching, learning and evaluation techniques
- ✓ Evolve methods of continuous assessment of students' performance
- ✓ Conduct examination and notification of results
- ✓ Degree shall be awarded by the University of Mumbai but with the name of the college on the degree certificate
- ✓ Prescribe rules for admission and fix fees of the courses at college level

College has been granted Academic Autonomy based on the factors such as:

- ✓ National Assessment and Accreditation Council (NAAC) 'A' grade (Score of 3.51/4.0)
- ✓ Academic reputation and performance in university examinations
- ✓ Academic/co-curricular activities of the students
- ✓ Academic/extension achievements of the faculty




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- ✓ Quality and merit in the selection of students and faculty
- ✓ Quality of institutional management

Discussion on the syllabus started with the display (on LCD screen) of the current syllabus (Revised syllabus of 2014-15) of M.Sc in Bioanalytical Sciences of the University of Mumbai, which will be implemented with some modifications as per the board members' suggestions.

Key points:

- ✓ Fourth semester can have Specializations in Pharmacovigilance, Drug regulation or Bioanalysis.
- ✓ Selection of students can be based on an entrance exam followed by a personal interview.
- ✓ Eligibility of students: B.Sc. in Physics, Chemistry, Botany, Zoology, Biochemistry, Biotechnology, Microbiology and Life Sciences.
- ✓ Batch strength of 20.
- ✓ Staffing pattern:
 - At least two faculty members (full time), eligibility as per University norms
 - Guest faculty
 - One lab assistant
 - Two lab attendants
 - One instrument technician
- ✓ Changes to be made in the nomenclature of fee receipt.
- ✓ Research methodology to be introduced in the syllabus.
- ✓ A mention about Bloom's Taxonomy was also made.
- ✓ A bridge course with credits can be introduced. It should have one unit based on basic chemistry OR instead of a bridge course introduction of a unit based on some modules from Life Sciences Sector Skill Development Council (LSSSDC) can be done. Topics from LSSSDC can be based on Good Laboratory Practices such as maintenance of glassware/ plastic ware; maintaining healthy, safe and secure working environment, etc.
- ✓ Approved design and layout prepared by architects of Urban Infrastructures of the proposed Bioanalytical Sciences laboratory on third floor of the college was displayed and the minutes of the meeting to finalize the laboratory design/ layout with the architect were confirmed with the board members.
- ✓ List of books relevant to the course was discussed.
- ✓ List of examiners and moderators was discussed and confirmed.
- ✓ List of instruments to be procured was displayed.
- ✓ Board members were taken for a visit to Analytical Chemistry Instrumentation lab of the college on second floor and thereafter, they checked analytical instruments (HPLC (Shimadzu), UV-VIS Scanning Spectrophotometer (Shimadzu), GC (Varian), FTIR (Perkin Elmer), AAS (Perkin Elmer) in the lab. Students of Bioanalytical Sciences will be using the resources and instruments in the analytical chemistry lab for their practicals with mutual understanding with the Department of Chemistry.
- ✓ Institution will also coordinate with SIES Institute of Chromatography and Spectroscopy at Nerul campus to give exposure to students of Bioanalytical Sciences to analytical instruments and to optimize and use facilities available at Nerul campus for their practical curriculum.
- ✓ Board members visited and inspected the proposed Bioanalytical Sciences laboratory site on third floor of the college.

Comments and suggestions of Board Members during the meeting:

Dr. Ajit Datar

- Classification of Chromatography can be introduced in Unit 103.1: Theory of Chromatographic separation and TLC
- IR, FTIR and Raman spectroscopy should be included in Unit 103.4: Spectroscopy – I
- In Unit 104.1: OMICS, the sequence of the sub-topics should be Genomics, Proteomics, Metabolomics and Lipidomics




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Dr. Tara Menon

- Internship in Semester IV

Dr. Sasikumar Menon and Dr. Satish Sarfare

- One paper of Semester IV to be removed and its contents to be clubbed with some component in Semester III

Others points noted

- Unit 301.2: Genomics to be merged with OMICS
- In Unit 301.3: Basic and Regulatory Toxicology, current guidelines can be included
- In Unit 301.4: Regulatory Microbiology and its application in pharmaceutical and food industry, Biosafety levels can be introduced
- In practicals of 301 (Basic Microbiology, Genomics, Capillary Electrophoresis and Toxicology – I), central streak with Bacillus species and isolation of microbes from contamination can be included
- The Examination Pattern: Theory component of the Course will be evaluated as –

1. Internal Assessment with 40% marks: Research paper review, research abstract writing, poster presentation or field/ industrial visit with submission of report

2. Semester End Examination (written) with 60% marks

Practical component of the Course will be evaluated by conducting Semester End Practical Examination of 50 marks.

Conclusion:

Curriculum design is an integral core of academics and a well-framed syllabus can be a game changer for both the institution and the student stakeholders. Many valuable suggestions came from the board members for the restructuring of the syllabus. These inputs will be incorporated in the new syllabus.

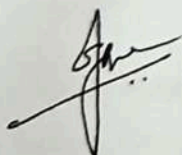
M.Sc in Bioanalytical Sciences has received a favourable response from pharmaceutical industries, therefore this course will serve as a platform for industry-academia collaboration and for industrial placement and employment of the post graduate students. The active interaction with pharmaceutical industries will make a significant difference to the institution in terms of reaccreditation by NAAC in the future.

The interdisciplinary approach of the course will inculcate cross disciplinary research culture in the institution with active interaction among the different departments of chemical and biological sciences.


Introducing this course will be a logical extension of the academic pursuits of the institution and a significant step towards achieving academic excellence.

Meeting adjourned at 5:30 pm

Minutes submitted by



Dr. Satish Sarfare
Coordinator, Bioanalytical Sciences
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Minutes of the Meeting of Board of Studies in Bioanalytical Sciences

The online meeting (virtual) of the Board of Studies in Bioanalytical Sciences, SIES College of Arts, Science and Commerce (Autonomous), Sion (West), Mumbai was held on Saturday, 29th August 2020 at 3:00 pm by using the Microsoft Teams Platform.

The agenda for the meeting was as follows:

- a) Approval of the revised syllabus for M.Sc. Part 2 in the subject of Bioanalytical Sciences
- b) Deliberation about Internship of the students which was missed due to Covid-19 pandemic and suggestions for appropriate alternatives for the same
- c) Discussion regarding Learning Objectives, Program Specific Outcomes and Course Outcomes
- d) Discussion regarding the commencement of M.Sc. Part 1 in the subject of Bioanalytical Sciences
- e) Review of the Teaching, learning and evaluation pedagogy under the current prevailing and challenging circumstances for this academic year 2020-21.

Board members:

- Dr. Satish Sarfare – Vice Principal, Coordinator, Bioanalytical Sciences, Head, Department of Zoology (Faculty, SIES College)
- Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College)
- Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College)
- Professor (Dr.) Sunita Shailajan – Department of Botany, Ramnarain Ruia College (Autonomous) (Subject expert and University Nominee)
- Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University)
- Dr. Sasikumar Menon – Director TDM Lab, Faculty, Pharma Analytical Sciences, (Subject expert from outside the College)
- Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
- Dr. Ajit Datar – Advisor, Shimadzu Analytical Pvt Ltd (Subject expert from outside the College)
- Dr. Kamalakar Sonawne – Consultant, Pharmaceutical Industry (Subject expert from outside the College)
- Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement)
- Dr. Juliet Victoria – Research Scientist, Terravana Group (Post graduate, Alumnus, SIES College)

Dr. Pallavi Roy could not attend the meeting due to prior commitment and had informed in advance about her leave of absence, and therefore, leave of absence was granted for the same.

Minutes

With reference to the approval of the revised syllabus for M.Sc. part 2 in the subject of Bioanalytical Sciences, the comments and suggestions of the respective board members were as follows:

Dr. Sasikumar Menon:

- In unit 404.1 it was suggested to involve case studies, especially about those drugs which have gone out of market due to regulatory rules
- In unit 404.1 involve more of Pharmacokinetics and Pharmacovigilance
- Chemistry component such as significance and chemistry of reagents dyes, buffers be included in Molecular biology topics such as PCR, electrophoresis

Dr. Savita Kulkarni

- In unit 401.2 it was recommended to teach Real Time PCR while studying PCR

Professor (Dr.) Sunita Shailajan

- For Ayush project in Semester 4 it was proposed that students should perform more parameters of Analysis



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- Seminar topics from the syllabus should be decided beforehand. These seminars help to develop soft skills in students

Dr. Naomita Dhume

- M.Sc. students should be given topics for seminars so that the students can understand the topics
- Similar topics such as BABE, GCP and ethical issues can be clubbed together
- A new component of Research Methodology was introduced in Khalsa College in M.Sc. Bioanalytical Sciences

Mr. Hemant Deshpande

- Focus on Practical Training.
- It was suggested that industry looks for experts in the field of Regulatory Affairs, Quality Control, Pharmacovigilance e.t.c

Dr. Tara Menon

- Agreed about involving more chemistry component in Molecular Biology topics
- Dr. Tara Menon was introduced as one of the coordinators of the Skills DBT program.

Dr. Satish Sarfare

- In unit 401.1 Pharmacokinetics and Pharmacodynamics would be introduced.
- In unit 301.3 of Basic and Regulatory toxicology brief elaboration of topics to be covered was explained
- Practical of 302, more emphasis on the interpretation than actual practical is the need of the hour taking in account of the current pandemic situation
- Submission of proposal of DBT Skill Vigyan program.

With reference to the Internship of the students which was missed due the Covid -19 pandemic and appropriate alternatives for the same, the comments and suggestions of the respective board members were as follows:

Dr. Sasikumar Menon

- Give Assignments based on industries. Students can choose a particular industry and prepare a PowerPoint presentation on what is a new product launched by that industry, what are the management strategies, what regulatory guidelines is that industry is following. Viva would be based on the presentation.
- Students can research a project which an industry environment needs.
- Let students complete term and exam (according to university rule) additional training not added in semester work

Dr. Savita Kulkarni

- Students can consider the Biological part of COVID 19 project. Students can write a review on vaccine development which can be made into a report and viva can be based on the report.

Professor (Dr.) Sunita Shailajan

- Student can suggest topics or areas of their interest or what they would like to learn and make presentations based on the same
- Students can work with Ph.D. students for research projects

Dr. Naomita Dhume

- Projects based on orientation of the students. Choices based on their aptitudes.
- Projects based on diagnostic labs, research institutes
- After semester 4, send students for industrial training

Dr. Juliet Victoria

- Many Industries come up with problems of separation, students can come up with possible strategies and research-based approach to solve these types of problems

Dr. Satish Sarfare

- Emphasis should be on the experience of industrial training of 3-4 months
- There should be some compensate of industrial training

Dr. Ajit Datar

- Finish theory of semester 4 by end of January and start industrial training from February onwards
- Students can be given option to choose industry or testing labs near their house.
- Regulatory data analysis of the given regulatory data can be analyzed from home (Work From Home)
- Assisting a Ph.D. scholar for research project work



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With reference to the discussion regarding inclusion and integration of Learning Objectives, Program Specific Outcomes and Course Outcomes into the curriculum, the comments and suggestions of the respective board members were as follows:

Dr. Satish Sarfare

- Informed that as per the notification of NAAC in December 2019 every course should include learning objectives, program specific outcomes and course outcomes.

Dr. Sasikumar Menon

- Recommended that syllabus should include learning objectives, program specific outcomes and course outcomes

With reference to the discussion on commencement of M.Sc Part 1, the comments and suggestions of the respective board members were as follows:

Dr. Satish Sarfare

- As per the circular from University, the colleges will have to conduct the semester end year exams of previous year and thereafter, admission to M.Sc. part 1 will start after the declaration of results of T.Y.B.Sc.

With reference to review of teaching, learning and evaluation pedagogy under the current prevailing and challenging circumstances for this academic year 2020-21, the comments and suggestions of the respective board members were as follows:

Dr. Satish Sarfare

- Suggested that board members to allow institution to complete about 75% of the syllabus in current lockdown scenario
- Students are given topics for seminars from the syllabus as a part of internal evaluation

Dr. Ajit Datar

- Agreed that about 80-85% of the topics of syllabus be covered by the institution, rest of the topics can be given by students as webinars and students can learn from the topics given to them

Professor (Dr.) Sunita Shailajan

- Suggested that after taking a review of the existing conditions and taking a feedback from students, the Board of Studies can meet after few months to evaluate the current situation.

Conclusion:

The current prevailing and challenging circumstances have indeed brought about a paradigm shift in teaching, learning and evaluation in this academic year 2020-21. Nonetheless, every adversity also brings along exciting opportunities to redefine and reorient existing paedagogies, thereby leading to new insights in academics.

Meeting adjourned at 4:30 pm

Minutes submitted by



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Minutes of the meeting

Minutes of the meeting of Board of Studies in the subject of Bioanalytical Sciences was held on 08-06-2021 at 03.00 p.m. virtually on MS Teams online platform.

The agenda of the meeting:

1. Review of the teaching, learning and evaluation pedagogy implemented during the pandemic in the academic year 2020-21.
2. Discussion on the industrial training/internship for M.Sc part 2 students in the academic year 2021-22
3. Permission for the proposal for research recognition of Bioanalytical Sciences Laboratory for Ph.D. students

Board members:

- Dr. Satish Sarfare – Coordinator, Bioanalytical Sciences, Head, Department of Zoology (Faculty, SIES College)
- Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College)
- Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College)
- Professor (Dr.) Sunita Shailajan – Head, Department of Botany, Ramnarain Ruia College (Autonomous) (Subject expert from other institution)
- Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University and University Nominee)
- Dr. Sasikumar Menon – Director TDM Lab, Faculty, Pharma Analytical Sciences, (Subject expert from outside the College)
- Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
- Dr. Ajit Datar – Advisor, Shimadzu Analytical Pvt Ltd (Subject/Industry expert from outside the College)
- Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement)
- Dr. Juliet Victoria – Research Scientist, Terravana Group (Postgraduate, Alumnus, SIES College)

Dr. Savita Kulkarni and Dr. Pallavi Roy could not attend the meeting due to prior professional commitments and had informed in advance about their leave of absence, and therefore, leave of absence was granted to them.

Point no.1 of the notice

Review of the teaching, learning and evaluation pedagogy implemented during the pandemic in the academic year 2020-21

Dr. Satish Sarfare

- In a brief overview of academic year 2020-2021, Covid-19 Pandemic has been a game changer but also a great teacher which has changed teaching learning from real to virtual space.
- The challenges in new normal have been idea of college as physical structure has been disrupted, new terms of engagement have emerged, Digital divide amongst students and their accessibility to resources, redefining the role of instructors to meet the learner's expectations as there is a shift in focus from teacher-centric to learner-centric education.



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- Online lectures and practical were conducted on MS Teams using interactive videos and simulations but for a course like Bioanalytical Sciences where hands on training is integral part of the curriculum and being the first batch, students were disappointed not to come to campus.
- Evaluation pedagogy also changed where emphasis was more on application, analysing and interpreting rather than mere understanding of concepts. Ayush project (a compulsory component which is to be practically performed) was modified where students were provided with research papers on standardization of ASU formulations and students had to present the topic as they have researched and performed it. This was to develop research aptitude and critical thinking among students.
- Even in a virtual mode students came up with creative ideas for extracurricular activities such as departmental and college festivals.
- There were no industrial or field visits in 2020-21 but online lectures by visiting faculty especially from industries were increased in 2020-21.
- RUSA, which had been instrumental in providing RUSA grant for the establishment of the department of Bioanalytical Sciences in SIES College of Arts, Science and Commerce (Autonomous) conducted an audit on 5th March 2021. RUSA representative Mr. Pramod Patil examined the infrastructure and the maintenance of various instruments with its proper documentation, records of procurement of new instruments such as GC, HPTLC. Department of Bioanalytical Sciences passed the RUSA audit successfully.
- The academic plans for 2021-22 includes a) Academia- Industry collaboration as the department of Bioanalytical Sciences has submitted a proposal "Skills Vigyan Programme under DBT state Partnership". B) Apply for a proposal to UGC HRD to conduct 'Refresher Course in Bioscience' organised by department of Bioanalytical Sciences in collaboration with department of Biotechnology, SIES College of Arts, Science and Commerce (Autonomous)

Dr Sasikumar Menon

- Commendatory review of academic year 20-21 which was conducted online but offline is important for a course like Bioanalytical Sciences.
- For students who are in M.Sc part 1 and would progress to M.Sc part 2 conduct a hands on 15 days bridge instrument handling course.
- Use the Unlock notification issued by Government of Maharashtra dated 15th October 2020 which concerns with allowing students belonging to skills courses to be present on college campus. (For this purpose, get approval from principal that Bioanalytical Sciences is a skills course so that a letter can be issued by the college which can be used for students for travelling in public transport)

Dr Sunita Shailajan

- Congratulatory review of academic year 20-21
- Ayush Project where student's interpretation was asked was a good idea (a query about student feedback about project was asked. (The student feedback was mailed subsequently).

Dr Ajit Datar

- As one of the visiting faculty for the department of Bioanalytical Sciences (both M.Sc part 1 and 2) limited online interaction with students was good and would like to continue the interaction in offline mode when situation is back to normal.



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Mr. Hemant Deshpande

- Academic review of 2020-21 is good
- Priority should be given to the Skills Vigyan Programme under DBT state Partnership” as this would align students for internship in industries.

Dr. Naomita Dhume

- As a co-ordinator of Bioanalytical Sciences in G.N Khalsa College Arts, Science and Commerce (Autonomous) similar method for evaluation of Ayush Project was undertaken. General opinion was students were able to understand standardization and different instrumentations. But, were disappointed due to virtual mode.

Dr. Juliet Victoria

- The Bioanalytical Sciences laboratory looks well equipped as seen in RUSA audit pictures.
- Query was asked with respect to Ayush project about the student’s ability to understand the research paper, whether student was able to find out the lacunae in the research paper. Did the projects given able to generate interest for higher learning in student (The student feedback was mailed subsequently).

Dr. Tara Menon

- For the students in the department of Biotechnology instead of research project or dissertation, an exercise was given where students had to prepare a project proposal. The project proposal should include aim, background, budget and other components but the idea for the project proposal should be unique. Few of these ideas were selected for Avishkar (Inter Collegiate Competition)

Point 2 of the Notice

Discussion on the industrial training/internship for M.Sc part 2 students in the academic year 2021-22

Dr. Satish Sarfare

- The first batch of M.Sc Bioanalytical Sciences could not undergo internship program between their semester 2 and 3 due to pandemic reasons. They students were evaluated for this component (Industrial Training) by submitting a Review of Literature instead
- Many of the students were interested to undergoing internship programme. Therefore, after their semester 4 examination they applied for internship in institutes like Haffkine Biopharmaceuticals and FDA (Mumbai)
- These students were selected and now are undergoing their internship.

Dr. Sasikumar Menon

- It is really heartening to know the students are doing their internship in institutes like Haffkine

Point 3 of the Notice

Permission for the proposal for research recognition of Bioanalytical Sciences Laboratory for Ph.D. students

Dr. Satish Sarfare




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- For a course like Bioanalytical Sciences 80-90% students opt for jobs in Industries after their post-graduation but there are 10-15 % of students who are convinced for Higher studies especially in research. Few want to pursue Ph.D. programme
- An appeal to Board of Studies members to grant permission for the proposal for research recognition of Bioanalytical Sciences Laboratory for Ph.D. students

Dr Sasikumar Menon

- Approved for the recognition of Bioanalytical Sciences Laboratory for Ph.D students
- An application must be made for the recognition of the Laboratory to the concerned authorities.
- Seek collaborations with industries for research topics so there is no financial burden on students who want to pursue Ph.D.

Dr. Sunita Shailajan

- Students pursuing Ph.D must be curious about the subject.
- Request College management to start a fellowship for students or a competition where students can display their research and can get some fellowship as an award.
- Maybe Dr Satish Sarfare and Dr. Tara Menon can collaborate on some research projects.

Dr Naomita Dhume

- Due to financial conditions many students don't pursue Ph.D.
- Some financial assistance should be given to students to pursue Ph.D.

Meeting Adjourned at 4.30 pm

Minutes submitted by

Dr. Satish Sarfare
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Minutes of the meeting of the Board of Studies in Bioanalytical Sciences

A meeting of the Board of Studies in Bioanalytical Sciences was held on Saturday 13th August 2022 at 11.00 am in the Board room, Ground floor, SIES College of Arts, Science and Commerce (Autonomous), Sion (W), Mumbai (offline). The meeting was scheduled in a hybrid mode (offline and online using Microsoft Teams).

The agenda of the meeting was as follows:

- a) For discussion and approval of the proposed revised syllabus of MSc Part 1 in the subject of Bioanalytical Sciences, to be effective from academic year 2022-23.
- b) Update on Internship component for MSc Part 2 students, which was swapped/ interchanged in from Semester III to Semester IV, to be done in November-December 2022 and overview of skill development workshops conducted by the department.

Members of the Board of Studies in Bioanalytical Sciences

1. Dr. Satish Sarfare – Coordinator, Bioanalytical Sciences (Chairman)
2. Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College)
3. Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College)
4. Professor (Dr.) Sunita Shailajan – (Retired) Head, Department of Botany, Ruia College (Subject expert from other institution)
5. Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University and University Nominee)
6. Dr. Sasikumar Menon – Director TDM Lab, Faculty, Pharma Analytical Sciences (Subject expert from outside the College)
7. Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
8. Dr. Ajit Datar – Former advisor to Shimadzu Analytical Pvt Ltd, currently consultant in Borosil Ltd. (Subject/ Industry expert from outside the College)
9. Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement)
10. Dr. Juliet Victoria – Senior Research Scientist, DD Shah Fragrances (Post graduate, Alumnus, SIES College)

Two additional new members were invited to be part of the Board of Studies as follows:

11. Dr. Supriya Shidhaye – Principal, VES College of Pharmacy (Expert from outside college, when special courses of study are formulated)
12. Dr. Mandar Mhatre, Manager, Ajanta Pharma, Mumbai – (Representative from Industry / Corporate sector / Allied area related to placement)

Note: Dr. Mandar Mhatre attended Board of Studies meeting held on 13th August 2022 through online mode, virtually and shared his valuable inputs.

Leave of absence was sanctioned to Dr Savita Kulkarni, Dr Ajit Datar, Mr Hemant Deshpande and Dr Supriya Shidhaye (the following board of studies members could not attend the meeting due to prior professional commitments and had informed in advance about their leave of absence)

Faculty members present from Department of Bioanalytical Sciences:

Ms. Pracheta S Salunkhe and Mr Tejas M Karandikar




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Regarding discussion and approval of the proposed revised syllabus of MSc part 1 in the subject of Bioanalytical Sciences to be effective for academic year 2022-23:

Opening remarks by Dr. Satish Sarfare

- ✓ Introduced Mr. Mandar Mhatre, manager and consultant at Ajanta Pharma, Mumbai (as an Industry expert from outside College) who was attending meeting virtually to present Board of studies member and also, mentioned details about other newly invited member Dr. Supriya Shidhaye, Principal, VES College of Pharmacy (Subject expert from other institution) who had accepted to be the Board of studies member, but could attend the meeting due to prior commitments. Inclusion of Dr. Supriya Shidhaye, as a Board of Studies member serves as a significant linkage between the Department of Bioanalytical Sciences and College of Pharmacy.
- ✓ Discussion on the revision of syllabus for MSc part 1 started in the Board of Studies meeting held on 23rd December 2022. A proposal of introduction/ inclusion of Research Methodology was put forward and was approved by the Board of studies members. The relevant books on the topic of Research Methodology which were resource materials while drafting the contents of the topic and are available in the College library were displayed for perusal of the Board of Studies members.
- ✓ Justification for subtopics to be included in Research Methodology is that Research Methodology is a very open-ended topic. Doing justice to the topic is challenging for the faculty engaging this topic. The idea for including unit of research methodology in semester 2 for MSc part 1 students is to familiarise them with the component similar to dissertation which they can execute as project/ assignment in part 1 itself.
- ✓ Research Methodology as a new unit is proposed in semester 2 paper 2. The title of paper 2 semester 2 is to be changed and Research Methodology is to be added in the title.
- ✓ In Research Methodology unit students will introduced to concept of how to write research paper and review paper, difference between them. End notes, foot notes, how to pursue research, Ph.D., overview of different fundings available, research ethics and how to compliance to Research ethics, different types of citations and plagiarism, how to avoid plagiarism, introduction to ethics used in animal testing which can serve as a foundation for Good Clinical Practice (units to be covered in MSc part 2). Reference material and designing/ structuring the above topics were from the available books in the College Library and were displayed to the board of studies members.
- ✓ The faculty teaching this unit needs to maintain a balance so as to do justice to the topic in 15 lectures without losing the essence of it.
- ✓ Due to introduction of Research methodology unit, the number of units of paper 2 semester 2 are not changed. Two units related to IPR are clubbed together into a single unit.
- ✓ The unit on research methodology can take care of establishing idea of patent (the same paper contains unit of IPR), how an idea can be taken further, how not every research is translation. Gestation and Incubation of an idea which can be later converted into IPR.
- ✓ For the unit of New Chemical Entity can be renamed as "Drug Invention and Pharmaceutical Industry" and resource material for the same can be Goodman and Gilman's: The Pharmacological Basis of Therapeutics (the subunits can be as per the subtopics mentioned in the reference book). This change too can be incorporated in the Title of the paper 4 semester 2. Students would be given details about what is a lead, how to optimize it, concept of clinical trials, policy considerations in pharmaceutical industries, ethical promotion of drug, approaches involved, consent required. The title of paper 4 semester 2 would be renamed as Drug Development, Pharmacokinetics, Pharmacodynamics and Immunoassays.
- ✓ In the Unit of OMICS paper 4 semester 1, a subunit of Internet of Things can be included (the Board of studies members had approved the proposal for the same on the meeting held on 23rd December).
- ✓ In the unit of Pharmacokinetics and Pharmacodynamics (paper 4 semester 2), details of subunits could be more specific such as what more needs to be covered in the topic. Subunit included could be cell membranes, clinical pharmacokinetics. The unit of Pharmacokinetics and Pharmacodynamics is distributed in two units namely Pharmacokinetics and a clubbed unit Pharmacodynamics and Drug properties. The unit on Pharmacodynamics and Drug properties can include classification of drugs and different types of receptors. Most of the sub topics covered



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would be covering fundamentals / base required for the topic such as Therapeutic Drug Monitoring, Bioavailability and Bioequivalence covered in MSc part 2.

- ✓ Though new topics are introduced in the syllabus, the credits would remain the same.

Dr. Pallavi Roy

- ✓ In Research Methodology students could be introduced to Qualitative Research and statistical tools such as SPSS and R.
- ✓ The Units of Pharmacokinetics and unit of Pharmacodynamics and Drug Properties are well formulated.
- ✓ To justify the units in 15 lectures students could be acquainted with overview of only binding G proteins, Therapeutic Index, ADR and SAE.

Dr. Sunita Shailajan

- ✓ Appreciated that the topic of Research Methodology is introduced in the syllabus, practical laboratory work load for the unit can be given as assignment or seminars to the students.
- ✓ The step to introduce Research Methodology is a good note for students who wish to pursue Ph.D. and many of those who want to take up Research as a career.
- ✓ The sub unit points included will help students to be ready for Ph.D. project, how to write scientifically and also, write an abstract.
- ✓ There are also some concerns covering the topic in depth. At MSc part 1 level students should understand quality research.
- ✓ Research conventions such as Avishkar can act as a reality check for student so as to not overrate their research and get an idea about what can be patented.

Dr. Tara Menon

- ✓ Agreeing with suggestion of Dr Pallavi Roy regarding introduction of statistical tools, a two days workshop on R and SPSS can be conducted having an external expert.

Dr Juliet Victoria

- ✓ It is brilliant idea to include the funding agencies in research methodology in MSc part 1, by MSc part 2 students mature and can execute what is learnt. They can write an abstract, write the practical aspect which is lacking as exercise in part I and should be able to review it as the pass part 2 (extended activity in part 2).
- ✓ In Drug Invention and Pharmaceutical Industry unit, concept of Biopharmaceuticals or Biosimilars can be introduced.

Dr. Naomita Dhume

- ✓ Introducing Research Methodology is the need of the hour. Students should know how an idea is conceived, how it can be converted to patent and published later.

Dr. Sasikumar Menon

- ✓ The topics in Research Methodology units are very open ended, reference books for the same should be added.
- ✓ Research Methodology as a topic is an important addition in MSc Part 1.
- ✓ In Unit of Drug Invention and Pharmaceutical unit remove FDA and instead add Drug Regulatory Authorities and Guidelines (e.g. Orange book).
- ✓ Can include Introduction to Therapeutic Category (e.g. Blockers), concept or significance of pharmacovigilance which can be elaborated in MSc part 2.

Mandar Mhatre

- ✓ Agreed with Dr Menon's suggestion regarding Drug Regulatory Authorities, students can be given a reference source document or guidelines or shown how to download and refer "Orange book".
- ✓ A practical component can be included where students can be provided with links to standard agencies like FDA, CDCSO, current regulatory guide and would be asked how to refer them.



- ✓ In Pharmacodynamics and Drug property unit students can be introduced to Pharmacovigilance, ICH and Drug Regulatory Authorities.

Regarding Update on Internship component for MSc part 2 students which was swapped/interchanged in November-December 2022, and overview of skill development workshops conducted by the department

Dr. Satish Sarfare

- ✓ The resolution was drafted and submitted to the SIES College examination committee and Principal madam regarding the interchange of internship component with Ayush project and permission for students to be off campus for internship in November-December 2022.
- ✓ The resolution has been approved and 50% students have been confirmed as interns in Industries/ Companies/ Organisations such as FDA (Mumbai), SIES School of Packaging, Cipla, Herman Finocem, IPCA Laboratories for a duration of 1st November to 31st December 2022.
- ✓ The department had conducted two skill development offline workshops under the aegis of RUSA namely a) Training and Skill development in Instrumentation and Bioanalytical Techniques (six days workshop for post graduate students of chemical and biological sciences background); Inculcating research aptitude and developing research skills (three days workshop for under graduate and post graduate students of science background) in the month of March and April 2022
- ✓ The idea behind conducting an offline skill development workshop was student were learning online for past 2 years and required hand-on training instruments and the process of concept development, to understand what is research, how one needs to be a good observer and curious and how to apply what they had theoretically learnt in the workshop by performing an experiential learning activity. It also helps in process of peer learning and working together.
- ✓ The response to these workshops was overwhelming and there was demand from the students to conduct more of such workshops.
- ✓ The department is proposing conducting workshop on the lines of a summer/ winter school, which can be offered to students across various colleges for a duration of 2 weeks which would include various facets of developing and solving research problems. The students will be required to pay separate fees for attending this summer/ winter school.
- ✓ The department had also procured various books related to syllabus of Bioanalytical Sciences which are added to College Library as resources/ reference for students. The lists of books procured were displayed for perusal of the board of studies members.
- ✓ The department is also conducting Bridge Lecture series for MSc Bioanalytical Students on topics such as Molecular Biology and Basics of Chromatography.
- ✓ The department has got Ph.D. Laboratory recognition approval and the notification for Ph.D. admission would be updated in August end/ first week of September. The new brochure of the Department uploaded on college website highlights about the same and the activities of the department along with course information.

Dr Pallavi Roy

- ✓ The idea of summer/ winter school can be in collaboration with department of Chemistry, SIES College of Arts, Science and Commerce (Autonomous), Mumbai.
- ✓ The department can refer to Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNTT) scheme to get an idea about requirements of how students attending this summer/ winter school can get credits for attending it.

Dr. Sasikumar Menon

- ✓ By attending this Summer / Winter school students should get credit points (the entire duration of summer/ winter school can be more than 45 hours.
- ✓ A proposal for the summer/ winter school equivalent to certain number of credits needs to be sanctioned by the board of studies as well as Academic Council to be implemented.

Dr. Naomita Dhume

- ✓ Regarding internships, Industries prefer interns for 3-6 months.
- ✓ The internship duration should also be maintained balancing the academics.




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Dr. Tara Menon

- ✓ In order to complete syllabus if internship duration is increased, students can have non-instructional hours for self-learning/ self-studying in the month of internship, In the department of Biotechnology, SIES College of Arts, Science and Commerce (Autonomous), Mumbai for past 2-3 year, the non-instructional hours the off Saturdays are given for self-studies when students are off campus for internship.
- ✓ Students from other department of College can also attend the Bridge lecture series organized by the department of Bioanalytical Sciences as it would be beneficial for students.

Dr. Juliet Victoria

- ✓ Regarding internship, if industries/ or organizations such as BARC, ACTREC can compensate with respect to units or relevant topics what interns are learning, these units can be skipped.

Dr. Sunita Shailajan

- ✓ If the internship duration is increased, few topics can be omitted, certain topics based on the work of their internship can be given as home assignment.
- ✓ The syllabus of Bioanalytical Sciences can have more topics based on Botany/Phytochemicals.

Conclusion

The proposed changes in the revised syllabus of MSc Part I in the subject of Bioanalytical Sciences were appreciated by the board members. A well designed and structured syllabus in the first year of MSc will certainly consolidate the fundamental concepts, and moreover, it will also serve as a stepping stone to redesign the syllabi of the final year of MSc in Bioanalytical Sciences. Many valuable suggestions, wherever feasible and applicable will be considered for the incorporation in final draft of the syllabus. The final draft of the proposed revised syllabus will be subsequently mailed to the members of board of studies at the earliest for their approval.

Meeting adjourned at 12.15 p.m.

Minutes submitted by



Dr. Satish Sarfare
Vice Principal
Head, Department of Zoology
Coordinator, Department of Bioanalytical Sciences
SIES College of Arts, Science and Commerce (Autonomous)
Sion (West), Mumbai
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Minutes of the meeting of the Board of Studies in Bioanalytical Sciences

A meeting of the Board of Studies in Bioanalytical Sciences was held in hybrid mode (offline/online) via Microsoft Teams on Thursday 27th April 2023 at 3.00 p.m. in the Board room, Ground floor, at SIES College of Arts, Science and Commerce (Autonomous), Sion (W), Mumbai.

The agenda of the meeting was as follows: -

- a) Discussion and approval of the proposed revised syllabus for MSc part 2 in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-24.
- b) Discussion and approval of the proposed scheme for summer internship for semester 3 and proposed outline for research project component for semester 4 for MSc part 2 students in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-2024.
- c) Discussion and approval of evaluation pattern for summer internship and research project component for MSc part 2 students in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-24.

Members of the Board of Studies in Bioanalytical Sciences

1. Dr. Satish Sarfare – Coordinator, Bioanalytical Sciences (Chairman)
2. Dr. Tara Menon – Head, Department of Biotechnology (Faculty, SIES College)
3. Dr. Pallavi Roy – Department of Chemistry (Faculty, SIES College)
4. Professor (Dr.) Sunita Shailajan – (Retired) Head, Department of Botany, Ruia College (Subject expert from another institution)
5. Dr. Savita Kulkarni – Radiation Medicine Center, BARC (Subject expert from outside the parent University and Vice Chancellors, University Nominee)
6. Dr. Sasikumar Menon – Director Institute for Advanced Training & Research in Interdisciplinary Sciences (IATRIS), Faculty, Pharma Analytical Sciences (Subject expert from outside the College)
7. Dr. Naomita Dhume – Head, Department of Bioanalytical Sciences, Khalsa College (Subject expert from outside the College)
8. Dr. Ajit Datar – Former advisor to Shimadzu Analytical Pvt Ltd, currently a consultant in Borosil Ltd. (Subject/ Industry expert from outside the College)
9. Mr. Hemant Deshpande – CEO, Pollux Life Sciences Solutions (Representative from Industry/Corporate sector/Allied area related to placement)
10. Dr. Juliet Victoria – Postdoctoral Researcher, Technical University of Denmark (Alumnus, SIES College)
11. Dr. Mandar Mhatre – Manager, Ajanta Pharma Limited, Mumbai
12. Dr. Supriya Shidhaye – Principal, VES College of Pharmacy, Mumbai

The following members attended the meeting online – Dr. Savita Kulkarni, Dr. Juliet Victoria, Dr. Pallavi Roy, and Dr. Mandar Mhatre. Leave of absence was sanctioned to Dr. Naomita Dhume, Mr. Hemant Deshpande, and Dr. Supriya Shidhaye, since they could not attend the meeting due to prior commitments.

In addition to the above members, Ms. Pracheta Salunkhe and Mr Tejas Karandikar, Faculty from Department of Bioanalytical Sciences were also present for the meeting. Moreover, four students of the current batch of MSc part 2; Ms. Amisha, Ms. Pooja, Ms. Eliza and Ms. Khushi, who appeared for the final semester 4 examinations, in April 2023 were also invited to attend the meeting, so that they could share their feedback on syllabus revision and their internship experience.

Regarding discussion and approval of the proposed revised syllabus for MSc part 2 in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-2024:-

Opening remarks by Dr. Satish Sarfare

- Giving a premise about the course which was started in 2019 under the aegis of RUSA, in the initial year, the University of Mumbai syllabus was followed as getting approvals to initiate the program took time and admission started late, this was followed by setback due to Covid-19. With the approval of the Board of studies members MSc, part 1 syllabus was revised where Research Methodology was introduced along with some new topics such as the Internet of things. Unit of New chemical entity was revised to Drug invention as most pharmaceutical industries now refer it to drug invention rather than drug discovery. This revision of the MSc part 1 syllabus has given the department confidence to revise the current MSc part 2 syllabus. Conventionally, MSc Bioanalytical Sciences has 4 theory papers and 4 practical papers per the University of Mumbai syllabus where 1 practical paper in semester 3 is related to industrial training/ internship; similarly, 1 practical paper in semester 4 is about AYUSH Project. With a rising trend when approaching industries




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that require more than 8 weeks of internship and emphasis on research, there is a need for revision of the MSc part 2 syllabus keeping the academic calendar dilemma in mind. The real challenge for syllabus revision is to wind up units without diluting the essence of the course.

- The titles of the papers of MSc part 2 Bioanalytical Sciences have Roman numerals I and II where there are redundant topics in the unit. Some topics have been clubbed and put in a single unit in one semester keeping one paper exclusively for the Internship component and Research project component for each semester respectively.
- The evaluation pattern where the Internship and Research Component justifying the total of 150 marks is shared with the Board of Studies members.
- The change in paper titles is as follows:
For semester 3 paper 1 titled Basic Microbiology, Genomics, CE, and Toxicology-I is converted to Microbiology, Genomics, and Toxicology. As the Capillary Electrophoresis unit is not included in the third semester. Paper 2 title MS applications, Metabolite studies, Thermal Analysis and Tracer Techniques-I had hyphenated techniques missing. The new title is Mass Spectroscopy and Hyphenated Techniques, Thermal Analysis, and Tracer Techniques. After reshuffling of units in paper 3 in the fourth semester the new title is Clinical Trials, GCP, BA/BE studies, and Method Validation. Having Clinical Trial in the paper title adds to the increase in job opportunities. Paper 4 is left blank for Industrial Training/ Internship / Apprenticeship component.
For the fourth Semester paper titles were continued for convenience but were not reflecting respective units. Paper 1 title is changed to Bioassay, Polymerase Chain Reaction, and Capillary Electrophoresis as Basic Microbiology and Toxicology are no longer included in the paper. Paper 2 changed to Therapeutic Drug Monitoring and Pharmacovigilance, Electronic Data Management, and Biostatistics as Statistics should be included where the Data Management topic is relevant. Paper 3 title is changed to Standardization and Regulatory Aspects of ASU Drugs and GMP. The fourth paper is entirely for Research Component related to AYUSH as the students are already taught Research Methodology and Good Laboratory Practices they are in a better position to prepare reports for the Internship component and Research project.
- This makes teaching Learning only for 3 papers.
- Some subunits or sub-topics in a unit can be given as seminar topics so students can even learn referencing on their own by visiting the library and can present in the class.
- Practicals have also been reshuffled according to the concerned units in respective papers. The department has performed some practical's at Chromatography and Spectroscopy Laboratory, SIES School of Packaging, Packaging Technology Centre, a sister concern of SIES College, and even one of the practical examinations of respective papers per semester was held there. This experience also gave the students the idea to have different examiners and a practical examination at a premise other than their laboratory. Some practical demonstrations have been included in the syllabus and the department is in talks with the National Facility of Biopharmaceuticals, Mumbai if certain experiments could be outsourced there as not all institutes will have all instruments for hands-on. Anchrom Ltd usually has an open day for providing exposure to students. The department is looking for other such industries where students can have a visit.

Dr. Sunita Shailajan

- The title of paper 3 in semester 4 should be Standardization of ASU Drugs and then Regulatory Aspects followed by GMP.
- It could be a comparison of Regulatory issues in ASU Drugs.

Dr. Sasikumar Menon

- A suggestion for the title of paper 3 semester 4 could be Standardization of ASU drugs, Drug Regulation and GMP
- For practical based on LCMS and GCMS if some quantitative software could be bought by the department students can integrate and interpret spectra.
- A Static Headspace GCMS experiment could be included.

Dr. Ajit Datar

- Industries just don't sell software as it can be compromised. Students can be given some data, shown practically how LCMS works, and be taught ionization and quantitation. Let them understand the difference between LCMS and GCMS.
- Topics that are part of the syllabus can be given as seminars, 3-4 topics per paper could be a good
- Capillary Electrophoresis (CE) application-wise has limitations and only biopharmaceutical industries would still use CE. Only theory should be kept and practical should be removed.
- I can help to arrange a visit to Shimadzu.



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Dr. Juliet Victoria

- Concerns regarding CE practicals, since the application is minimal. Students can be taught only theory.
- I can contact companies like Agilent which can give their old instrument to the department or at least arrange for a visit to the institute for the department.

Regarding Discussion and approval of the proposed scheme for summer internship for semester 3 and proposed outline for research project component for semester 4 for MSc part 2 students in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-2024: -

Dr. Satish Sarfare

- As most industries prefer more than 8 weeks of internship duration if students start their internship in May and return to campus in July, faculties get 90 days to complete the syllabus of the 3 papers keeping up with the academic calendar and centralized examination schedule.
- Post-third-semester examination which tentatively is held before the Diwali vacation students can do a research project based on the essence of AYUSH. Students can be a part of a team where they present how to write a research proposal. The current batch is familiar with the research methodology which was taught in semester 2 and their research methodology can revolve around AYUSH. This project can be performed in the Bioanalytical Science department laboratory or some Ayurvedic/ Unani/ Siddha physician clinic can absorb them. The department is networking with the visiting faculty Dr. Aashish Phadke who is an Ayurvedic physician if he can take some students for a research project. This Research Project can be completed in November and December (minimum 2 months) as no teaching-learning would be held in this duration and faculties start semester 4 in January, they still get three months to complete the syllabus of 3 papers of semester 4.
- The project could be making an Ayurvedic/ Siddha/ Unani formulation and its standardization. The project could be divided into a group of 4-5 students since the current batch size is 16 students and having 10-16 individual projects may not be able to crystallize or execute. Some standardization work could also be carried out in the Chromatography and Spectroscopy Laboratory, SIES School of Packaging, Packaging Technology Centre, a sister concern of SIES College.
- Students are given a logical extension of what was taught in the Research Methodology in the first year while doing such a research project.

Dr. Sunita Shailajan

- Students should have an idea about the research project to be performed and where it is going to be performed.
- Students can refer to Pharmacopoeia available in the library.

Dr. Savita Kulkarni

- Sending students at least 2 months of internship in industries is okay. Even in a research organization minimum of 2-3 months is required for an internship. In the Research project the student can go to the library for referencing is a good start it is great that students know what is a citation, and the H index and are familiar with the research methodology.

Regarding discussion and approval of the evaluation pattern for summer internship and research project component for MSc part 2 students in the subject of Bioanalytical Sciences to be implemented from the academic year 2023-2024: -

Dr. Satish Sarfare

- The evaluation pattern for the industrial internship and research component has been shared with the Board of studies members and is open to suggestions.
- In terms of industrial internship, the evaluation would be done by reporting officer handling the candidate, and the marking scheme gives a fair idea to the officer on various criteria/ parameters to evaluate the candidate. Modulation of evaluation will also be done by a faculty of the department who would be a mentor to the candidate.
- In terms of the Research Project, the evaluation pattern is based on how they carry out a literature review, and how they submit a research proposal /dissertation along with the actual project performed. A faculty from the department will mentor them for the same.




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Dr. Sasikumar Menon

- Fair enough in terms of internship evaluation criteria but a total of 6 credits equals 150 marks. Please check if contact time is equivalent to 180 hours, and whether a student should spend mentioned duration in the industry working or is it shorter duration per week.
- According to the evaluation sheet, it would be difficult to evaluate in the higher range marks, if reducing the weightage to the external accordingly the marks can be reduced.

Dr. Sunita Shailajan

- Concerns regarding how much justice will the reporting officer do to the candidate in evaluating them.
- Grading a student and evaluating them would be a burden on the officer also all students might not get better marks in this evaluation. A biased evaluation might happen as a candidate spends more than 2 months in contact with the reporting officer.
- A suggestion could be that of the total 150 marks for the paper, 50 marks can be evaluated by the reporting officer in the industry, 50 marks can be evaluated by the internal faculty and 50 marks could be evaluated by the external examiner on the day of examination.
- Students can report simultaneously to internal faculty as 2 reports would be better for evaluation and 100 marks evaluation on the day of the examination.

Dr. Juliet Victoria

- What percentage of marks are for continuous evaluation, if the total marks are 150 then is the external (reporting officer evaluation 50% or 75 marks and the rest of the 75 marks are for the day of examination, or is the evaluation of 60-40 pattern?
- Concerns regarding grading as students are placed in different places, it is an injustice to the student as different reporting officers/ externals might have different standards and some might get lesser marks as compared to others.

Dr. Tara Menon

- If the 50 marks, can it be further diluted as 25 marks or 50 % by the reporting officer and the other 50 % by the internal and the average would be the final marks scored by the student.

Regarding discussion with MSc Bioanalytical Sciences students: -

Amisha: The revised syllabus looks better. Including research methodology is indeed beneficial. The internship was a good exposure for students also some other interns from different colleges who had joined with me were evaluated by the reporting officer.

Pooja: It's a good idea to club certain topics together as some topics are repetitive.

Eliza: Research project and having the application of research methodology in it is good.

Khushi: Having a research project is a good idea

The students also discussed with the board of studies members what kind of work they did in FDA, Mumbai since all of the above students interned in the same institute. The students had even bought their internship report which the board of studies members read through.

Conclusion

The proposed revised syllabus for MSc part 2 Bioanalytical Sciences in the subject of Bioanalytical Sciences was discussed and was well received with suggestions by the members of Board of Studies in Bioanalytical Sciences. All Board of Studies members agreed that for evaluation pattern for the internship should be 50 marks by the reporting officer and 100 marks for evaluation on the day of examination. Also, for a research project if a student is carrying it out at clinic practising Ayurveda/ Siddha / Unani systems of medicine, then, the distribution of marks to be evaluated should be similar to an internship.

The meeting was adjourned at 4.45 p.m.

Minutes submitted by



Dr. Satish Sarfare

Vice Principal

Coordinator, Department of Bioanalytical Sciences

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2020-21


NOTICE

The BOS meeting of Department of Computer Science & Department of Information Technology for MSc(Data Science) will be held on 27.06.2020 at 11.00 a.m in online mode through Microsoft Teams platform ,to consider :

AGENDA

1. Review of the course structure for MSc(Data Science)
2. Review of MSc(Data Science)-Part I , Semester I syllabus (Theory and Practicals)
3. Review of MSc(Data Science)-Part I , Semester II syllabus (Theory and Practicals)
4. Any other point with the permission of the Chair.




Mr. Manoj Singh
Chairperson




Principal
SIES College of Arts, Science &
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Sion (West), Mumbai - 400 022.

Minutes of the meeting of BOS of Department of Computer Science & Department of Information Technology for MSc(Data Science) which was held on 27.06.2020 at 11.00 am in the online mode through Microsoft Teams Platform

1. The meeting was attended by 10 members along with our Principal, Dr.Uma Shankar
2. Leave of Absence was sanctioned to 1) Mr. CA Vishwanathan, the industry representative
3. Meeting commenced with welcome address by Mr. Manoj Singh followed by the introductory remarks by Principal, Dr.Uma Shankar. Being the first BOS meeting, the members were told to introduce themselves.
4. Review of the course structure for MSc(Data Science):
Mr. Manoj Singh presented the Course structure for the two year Post Graduate program in Data Science which included the objective, subjects covered in each semester, fee structure, number of seats, eligibility criteria and evaluation pattern. This was approved by all the members.
5. Review of MSc(Data Science)-Part I , Semester I syllabus (Theory and Practicals):

Theory component

- Statistical Methods for Data Science - Dr. Siby Abraham suggested to add the topic of Support Vector Machine as a part of Machine Learning and exclude it in this subject. He also suggested to include Linear Programming in this subject
- Advanced Database Management Systems - Dr. Amol Joglekar and Dr. Hiren Dand suggested to introduce mongoDB in this subject. Dr. Kamatchi Iyer seconded the suggestion.
- Data Mining for Business Intelligence - The contents were approved by all BOS members.
- Linear Algebra and Linear Programming - Dr. Siby Abraham and Dr. Hiren Dand suggested to have the topics related to Linear Algebra only and exclude linear programming as the contents is very vast for students to grasp at first year level. Principal, Dr. Uma Shankar mentioned that in the pandemic situation we must restrict the contents of the Syllabus so that it is feasible with respect to its completion since the current academic year could be short.

Practical component

- Statistical Methods for Data Science - All the BOS members approved the list of practicals.
 - Advanced Database Management Systems - All the BOS members approved the list of practicals.
 - Data Mining for Business Intelligence - All the BOS members approved the list of practicals.
 - Linear Algebra and Linear Programming, due to changes recommended in theory , the practical had to be changed accordingly as suggested by Dr. Siby Abraham and Dr. Hiren Dand.
 - Dr. Kamatchi Iyer suggested that R programming has to be introduced in Semester 1 so that the students understand the R practicals in the subject 'Statistics in Data Science'.
6. Review of MSc(Data Science)-Part I , Semester II syllabus (Theory and Practicals):




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Theory component

- Advanced Statistical Methods – The contents were approved by all BOS members
- Machine learning - Syllabus was approved by all BOS members. Dr. Siby Abraham suggested to include the reference book "A first course In Machine Learning" by Simon Rogers and Girolami
- Data Science -I - Dr. Kamatchi Iyer and Dr. Amol Joglekar recommended to shift the subject Data Science I to Semester 1 so that R programming is introduced. Dr. Siby Abraham and Dr. Hiren Dand suggested to change the name of the subject Data Science - I to Introduction to Data Science through R.
- Dr. Siby Abraham and Dr. Hiren Dand were of the opinion that the subject Linear Algebra and Linear Programming should be shifted to Semester 2.
- Research Methodology - Dr. G.M Magar requested to add the topics like Research Ethics, Plagiarism and Patents in an introductory level due to its relevance in the current scenario.

Practical component

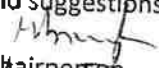
- Advanced Statistical Methods - Dr. Siby Abraham suggested that the practical list should cover all units equally.
- Machine learning - Dr. Amol Joglekar recommended the practicals to be implemented using R and Python instead of Java.
- Data Science -I - Syllabus was approved by all BOS members
- Research Methodology - Dr. Kamatchi Iyer suggested that all the Practical mentioned have to be discussed for any chosen case study so that the students can publish the papers or present them in relevant conferences.

7. Other points discussed with the permission of the Chair:


- Mr. Kunal Shah suggested that internships could be done by students in each semester but Mr. Manoj Singh and Dr. Kamatchi Iyer were of the opinion that it would not be feasible and stressed on the importance of Internships and Project only in the last semester
- Dr. G M Magar suggested that Data Security/ Information Security to be added in the course.
- Dr. Hiren Dand, Dr G M.Magar and Dr. Amol Joglekar collectively agreed that Data Security needs to be added in the subject Data storage and management in Semester III
- Dr. Hiren Dand and Dr. Amol Joglekar suggested that 6 credits to be given for Internship and 6 credits to be given for Project in Semester IV.

Mr. Manoj Singh thanked all the members for giving their valuable time and suggestions.

Date: 27.06.2020


Chairperson
(Mr. Manoj Singh)




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2021 - 22

Minutes of the meeting of BOS of Department of Data Science which was held on 17th December 2021 at 4.00 pm

1. The meeting was attended by 06 members.
2. Leave of Absence was sanctioned to 03
3. Mr. Manoj Singh requested for swap of subject Data Science II from Semester 3 to Semester 2 and Linear Algebra from Semester 2 to Semester 3 and the same was passed unanimously by the BOS.
4. Dr. Sibi Abraham and Ganesh (Complete name) requested to:
 - a. Add a subject Research Proposal in Semester 3 with 2 credits
 - b. Split the subject Internship / Project in Semester 4 into 2 subjects as Internship with 4 credits and Research Implementation with 4 credits .
 - c. Add more of Real Time Application of Data Science, in the subject of Data Science I and Data Science II , instead of teaching the Language in the respective Units.
5. In general BOS members felt Mathematics is beyond the scope of Data Science and so few topics to be removed in the respective subjects.

Date: 18-12-2021



Chairperson

A handwritten signature in black ink, appearing to be "J. Manoj Singh".



A handwritten signature in blue ink, appearing to be "Dr. Sibi Abraham".

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Th./ACD/2017-18/ 4858

The Principal,
SIES College of Arts, Science & Commerce,
Sion (W),
Mumbai- 400 022.

SIES College of
Arts, Science & Commerce
MUMBAI - 400 022.

31 JAN 2018

In ward No. 5321

23rd January, 2018.

Madam / Sir,
This has reference to your proposal for New Recognition to enroll students for Ph.D.(Arts) degree in the subject of English for the academic year 2016-17.

In this connection, I write to inform you that the report of the Local Inquiry Committee for New Recognition for the Ph.D.(Arts) degree in the subject of English placed before Board of University Teaching and Research (B.U.T.R.) in the faculty of Arts at its meeting held on 6th September, 2017, vide item No. 35, when it was resolved as under :-

"Resolved of the Local Inquiry Committee for Continuation of Recognition for Ph.D. degree in the subject of English for a period of three years from the academic 2016-17 to 2018-19 to enroll students 10 (ten), be referred back to the Chairman of the LIC for proper justification."

The aforesaid recommendations of the Board of University Teaching and Research was therefore referred to the I/c Dean, Faculty of Humanities, for justification. On receipt of the justification from the I/c Dean, Faculty of Humanities, the said matter was placed before the Academic Council at its meeting held on 11th December, 2017 (vide item No.6.4), when it was resolved as under :-

"It was resolved that the recommendations made by Dr. M.S. Kurhade, I/c Dean, Faculty of Humanities on the matters referred to him from the BUTR vide item No.25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 38, 39 and 42 at its meeting held on 6th September, 2017 be accepted."

In pursuant to the above resolution of the Academic Council, I am to inform you that SIES College of Arts, Science & Commerce, Sion (W), Mumbai- 400 022, has been granted permission for New Recognition to enroll ten (10) students for the Ph.D.(Arts) degree in the subject of English for a period of three years from the academic year 2016-17 to academic year 2018-19.

You are, therefore, requested to pay the remaining fees of Rs.20,000/- (Rupees Twenty Thousand Only) towards the Continuation of Recognition from the academic year 2017-18 to 2018-19. Further, you are requested to submit the proposal for continuation of recognition for the academic year 2019-20 onwards on or before 30th September, 2018.

Yours faithfully,

W. Talwar
Deputy Registrar 20/1/18
(Thesis Section)

Copy to -

1. The Jt. Director, Higher Education, Maharashtra State, Mumbai Region, Elphinstone Technical High School Building, Mahapalika Marg, Mumbai - 400 001.
2. The Deputy Registrar, Academic Authority Unit, for information and it may be treated as an action taken report on the resolution of item No. 6.4 of the Academic Council meeting held on 11th December, 2017.
3. The Deputy Registrar, P.G. Section for information, for information and it may be treated as an action taken report on the resolution of item No.35 the B.U.T.R. meeting held on 6th September, 2017.
4. The Co-Ordinator, University Computerisation Centre, University of Mumbai, Idol Building, Vidynagari, Kalina, Mumbai - 400 098.

University of Mumbai

Phone – 09167563793
E-mail – rapc@mu.ac.in



Research Administration &
Promotion Cell,
UNIVERSITY of MUMBAI,
Kalina Campus, Vidyanagari.

Th./ICD/2022-23/ 1382

19th July, 2022

The Principal,
SIES College of Arts, Science & Commerce,
Plot No. 83/84 & 106/107,
Jain Society, Sion,
Mumbai – 400 022.
Email – umas@sies.edu.in

Sub :- Your Proposal for **First Time Recognition** for **Ph.D. (Science)** degree course in the subjects of **Bioanalytical Science** for the academic year 2022-23.

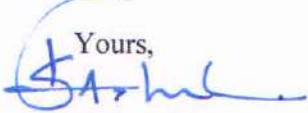
Madam / Sir,


With reference to the subject above, I am directed by the Hon'ble Vice-Chancellor to inform you that the report of the Local Inquiry Committee for **First Time Recognition** for **Ph.D. (Science)** degree course in the subjects of **Bioanalytical Science** was placed before the Academic Council at its meeting held on **17th May, 2022**, vide item No.3.6, when it was resolved as under:-

“The resolution passed by the Board of Deans at its meeting held on 2nd May, 2022 vide item No. 3.37 to consider the reports of the Local Inquiry Committee appointed by the Board of Deans on the applications received from various Research Centres (as per Appendix) who had applied for First Time Recognition (09 reports)/ Extension of Recognition (05 reports) and Permanent Recognition (02 reports) **be accepted.**”

Pursuant to the above resolution of the Academic Council, I am to inform you that the College/Institute has been granted permission for **First Time Recognition** to enroll **06 (Six)** students for the **Ph.D. (Science)** degree course in the subjects of **Bioanalytical Science** from the AY 2022-23.

Further, you are requested to submit the proposal for Continuation of Recognition for the Academic Year 2023-24 on or before 30th September, 2022.

Yours,

Umesh Avhad
Assistant Registrar
(RAPC)

SIES College of Arts, Science & Commerce (Autonomous) Sion (West), Mumbai - 400 022
Inward No : 5882
Date : 20/7/22
Receiver's Sign : 

10
20/7

University of Mumbai



Research Administration &
Promotion Cell,
UNIVERSITY of MUMBAI,
Kalina Campus, Vidyanagar.

Phone – 09167563793
E-mail – rapc@mu.ac.in

Th./ICD/2022-23/ 1225

1st July, 2022

The Principal,
SIES College of Arts, Science & Commerce,
Plot No. 83/84 & 106/107, Jain Society,
Sion, Mumbai – 400 022.
Email – umas@sies.edu.in

Sub :- Your Proposal for **Extension of Recognition (for new Course under same faculty)** for **Ph.D. (Science)** degree course in the subjects of **Chemistry, Physics and Bio-Chemistry** for the academic year 2020-21.

Madam / Sir,

With reference to the subject above, I am directed by the Hon'ble Vice-Chancellor to inform you that the report of the Local Inquiry Committee for **Extension of Recognition (for new Course under same faculty)** for **Ph.D. (Science)** degree course in the subjects of **Chemistry, Physics and Bio-Chemistry** was placed before the Academic Council at its meeting held on **17th May, 2022**, vide item No.3.9, when it was resolved as under:-

“The resolution passed by the Board of Deans at its meeting held on 2nd May, 2022 vide item No. 3.40 to consider the reports of the Local Inquiry Committee appointed by the Board of Deans on the applications received from various Research Centres (as per Appendix) who had applied for First Time Recognition (05 reports)/ Continuation of Recognition (17 reports)/ Extension of Recognition (11 reports) and Permanent Recognition (02 reports) **be accepted.**”

Pursuant to the above resolution of the Academic Council, I am to inform you that the College/Institute has been granted permission for **Extension of Recognition (for new Course under same faculty)** to enroll students for the **Ph.D. (Science)** degree course in the subjects of **Chemistry (08 students), Physics (04 students) and Bio-Chemistry (04 students)** from the academic year 2020-21.

You are therefore, requested to submit the proposal for continuation of recognition for the academic year 2021-22 and 2022-23 and pay the remaining fees towards the Continuation of Recognition for the same within 15 days, as a precondition for approval of continuation of recognition.

SIES College of Arts, Science & Commerce (Autonomous) Sion (West), Mumbai - 400 022.	
Award No :	5868
Date :	2/7/22
Receiver's Sign :	

Yours,

Umesh Avhad
Assistant Registrar
(RAPC)