

MICROBIOLOGY Departmental Report (2023-2024)

Preliminary information

I Department profile

Names	Designation
Dr. Arjumanara Surti	Associate Professor, Head of Department
Dr. Rajbinder Kaur Dehiya	Associate Professor, Vice Principal
Ms. Shraddha Prabhu	Assistant Professor
Mr. Vijay Vig	Assistant Professor
Ms. Swamini Patade	Lecturer (Ad-hoc)
Ms. Afreen Ansari	Lecturer (Ad-hoc) (From June to Oct 2023)
Ms. Priyanka Mithbawkar	Lecturer (Ad-hoc) (from June 23 onwards)
Ms. Purva Kantik	Lecturer (Ad-hoc) (from Nov 2023 onwards)

II Courses/Papers taught

SEMESTER I -

Course code	TITLE	Credits
DSC:SMCB111MJ	FUNDAMENTALS OF MICROBIOLOGY	3 Credits
SMCB111MJP	FUNDAMENTALS OF MICROBIOLOGY	1 Credit
VSC1 : SVSC107	CULTIVATION OF MICROORGANISMS	1 Credit
SVSC107P	CULTIVATION OF MICROORGANISM PRACTICALS	1 Credit
VSC2 : SVSC108	CONTROL OF MICROORGANISMS	1 Credit

SVSC108P	CONTROL OF MICROORGANISMS PRACTICALS	1 Credit
----------	--------------------------------------	----------

SEMESTER II

Course code	TITLE	Credits
DSC: SMCB122MJ	MICROBIAL DIVERSITY, INTERACTIONS AND GROWTH	3 Credits
SMCB122MJP	MICROBIAL DIVERSITY, INTERACTIONS AND GROWTH	1 Credit
SEC 1: SSEC207	MICROBES & HUMAN HEALTH	1 Credit
SSEC207P	MICROBES & HUMAN HEALTH PRACTICALS	1 Credit
SEC2: SSEC208	MICROBIAL TECHNOLOGY	1 Credit
SSEC208P	MICROBIAL TECHNOLOGY PRACTICALS	1 Credit

SEMESTER III

Course Code	TITLE	Credits
SBSMCB301	MICROBIAL DIVERSITY, MICROBIAL TAXONOMY & INSTRUMENTATION	2
SBSMCB302	ENVIRONMENTAL MICROBIOLOGY	2
SBSMCB303	INTRODUCTION TO MICROBIAL METABOLISM AND BIOSTATISTICS	2
SBSMCBP3	PRACTICALS	3
	SECTION-1 MICROBIAL DIVERSITY, MICROBIAL TAXONOMY & INSTRUMENTATION	

	SECTION-2 ENVIRONMENTAL MICROBIOLOGY	
	SECTION-3 INTRODUCTION TO MICROBIAL METABOLISM AND BIOSTATISTICS	

SEMESTER IV

Course Code	TITLE	Credits
SBSMCB401	MEDICAL MICROBIOLOGY & IMMUNOLOGY	2
SBSMCB402	APPLIED MICROBIOLOGY	2
SBSMCB403	BASICS IN GENETICS AND MOLECULAR BIOLOGY	2
SBSMCBP4	PRACTICALS	3
	SECTION-1 MEDICAL MICROBIOLOGY & IMMUNOLOGY	
	SECTION-2 APPLIED MICROBIOLOGY	
	SECTION-3 BASICS IN GENETICS AND MOLECULAR BIOLOGY	

SEMESTER V

Course code	TITLE	Credits
SBSMCB501	MICROBIAL GENETICS	2.5
SBSMCB502	MEDICAL MICROBIOLOGY AND IMMUNOLOGY: PART-I	2.5
SBSMCB503	MICROBIAL BIOCHEMISTRY: PART-I	2.5
	BIOPROCESS TECHNOLOGY: PART I	

SBSMCB504		2.5
SBSMCBP5	PRACTICALS	06
	SECTION-1 MICROBIAL GENETICS	1.5
	SECTION-2 MEDICAL MICROBIOLOGY AND IMMUNOLOGY: PART-I	1.5
	SECTION-3 MICROBIAL BIOCHEMISTRY: PART-I	1.5
	SECTION-4 BIOPROCESS TECHNOLOGY: PART I	1.5
SBSAPC503	FOOD PRODUCTION AND PROCESSING (General Principles)	2
SBSAPCP503	FOOD PRODUCTION AND PROCESSING (General Principles)	2

SEMESTER VI

Course code	TITLE	Credits
SBSMCB601	rDNA TECHNOLOGY, BIOINFORMATICS AND VIROLOGY	2.5
SBSMCB602	MEDICAL MICROBIOLOGY AND IMMUNOLOGY: PART-II	2.5
SBSMCB603	MICROBIAL BIOCHEMISTRY: PART-II	2.5
SBSMCB604	BIOPROCESS TECHNOLOGY: PART II	2.5
SBSMCBP6	PRACTICALS	06
	SECTION 1 rDNA TECHNOLOGY, BIOINFORMATICS AND VIROLOGY	1.5
	SECTION-2 MEDICAL MICROBIOLOGY AND IMMUNOLOGY: PART-II	1.5
	SECTION 3 MICROBIAL BIOCHEMISTRY: PART-II	1.5
	SECTION-4 BIOPROCESS TECHNOLOGY: PART II	1.5
SBSAPC603	FOOD PRODUCTION AND PROCESSING (Advanced methods, Applications and Quality Assurance)	2
SBSAPCP603	FOOD PRODUCTION AND PROCESSING PRACTICAL	2

POST GRADUATE:

SEMESTER I -

Course code	TITLE	Credits
Mandatory 1 SMCB511MJ	VIROLOGY AND CELL BIOLOGY-I	4
Mandatory 2 SMCB512MJ	GENETICS-I	4
Elective SMCB511E	MICROBIAL BIOCHEMISTRY	2
SMCB511RM	RESEARCH METHODOLOGY	4
	PRACTICALS	
Mandatory 1 SMCB511MJP	VIROLOGY AND CELL BIOLOGY-I	2
Mandatory 2 SMCB512MJP	GENETICS-I	2
Elective SMCB511EP	MICROBIAL BIOCHEMISTRY	2

SEMESTER II -

Course code	TITLE	Credits
Mandatory 1 SMCB523MJ	VIROLOGY AND CELL BIOLOGY-II	4
Mandatory 2 SMCB524MJ	GENETICS-II	4
Elective SMCB522E	FOOD MICROBIOLOGY	2
SMCB521OJT	FIELD PROJECT/ON JOB TRAINING (OJT)	4
	PRACTICALS	
SMCB523MJP	VIROLOGY AND CELL BIOLOGY-II	2
SMCB524MJP	GENETICS –II	2
SMCB522EP	FOOD MICROBIOLOGY	2

SEMESTER III

Course code	Name of the Unit	Credits
SMSMCB301	RESEARCH METHODOLOGY	4
SMSMCB302	FOOD MICROBIOLOGY	4
SMSMCB303	ADVANCES IN BIOTECHNOLOGY-I	4
SMSMCB304	ENVIRONMENTAL MICROBIOLOGY-I	4
SMSMCBP3	PRACTICALS	
SMSMCBP301	Research proposal writing	2
SMSMCBP302	Food Microbiology	2

SMSMCBP303	Advances in Biotechnology-I	2
SMSMCBP304	Environmental Microbiology-I	2

SEMESTER IV

Course code	Name of the Unit	Credits
SMSMCB401	TOOLS AND TECHNIQUES: BIOMOLECULAR ANALYSIS	4
SMSMCB402	PHARMACEUTICAL MICROBIOLOGY	4
SMSMCB403	ADVANCES IN BIOTECHNOLOGY-II	4
SMSMCB404	ENVIRONMENTAL MICROBIOLOGY-II	4
SMSMCBP4	PRACTICALS	
SMSMCBP401	Dissertation submission and presentation	2
SMSMCBP402	Pharmaceutical Microbiology	2
SMSMCBP403	Advances in Biotechnology-II	2
SMSMCBP404	Environmental Microbiology-II	2

III BOS composition

Dr. Arjumanara Surti - Chairperson, Board of Studies

Dr. Anuradha Pendse -The Vice-Chancellor's nominee

Dr. Vikrant Bhoir - ICMR NIRRH Subject Expert (outside the Parent University)

Dr. Manju Sharma - ICT Subject Expert (outside the Parent University)

Dr. Girish Mahajan - Representative from industry

Ms. Martina Gomes - Postgraduate alumnus

Other Members of the Faculty-

Dr. Rajbinder Kaur

Ms. Shraddha Prabhu

Mr. Vijay Vig

Ms. Swamini Patade

Ms. Priyanka Mithbawkar

Ms. Afreen Ansari /Ms. Purva Kantak

IV Dates of BOS meetings

10th June 2023

21st October 2023

1. Activities Conducted by the department:

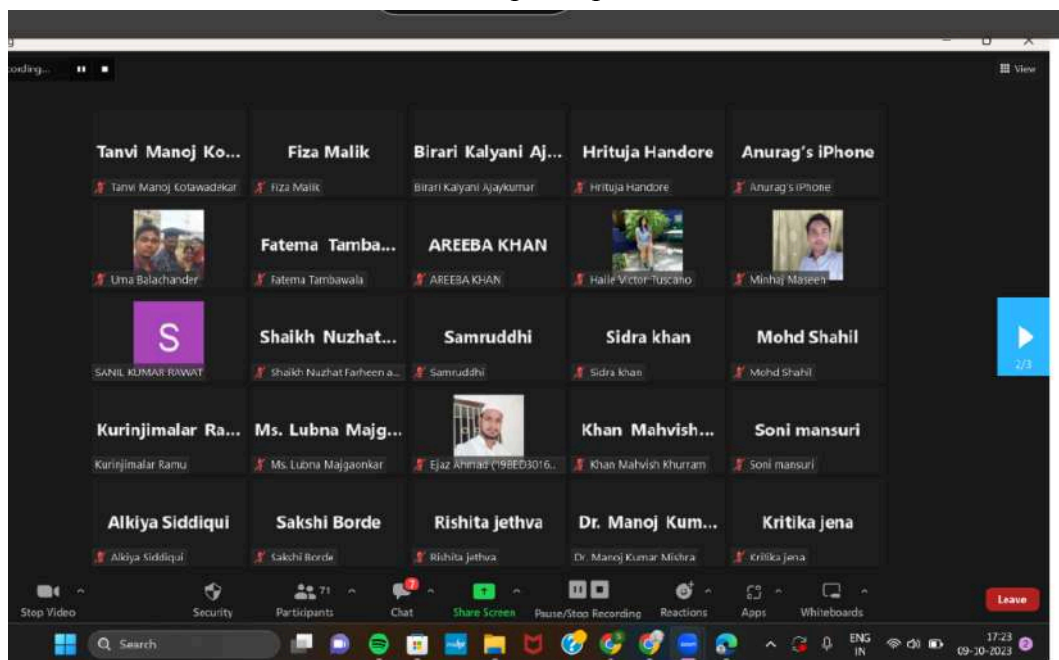
ACTIVITY 1

Workshop on Emerging Trends in Research Methodology.

The Department of Microbiology, Sophia College (Autonomous) in collaboration with REST Society for Research International (RSRI) organized this one-week online workshop that was sponsored by RUSA. The workshop was conducted for postgraduate students (Science and Arts) across all colleges.

Date -October 3rd to 7th, 2023.

Number of students involved - 257 participants from across India



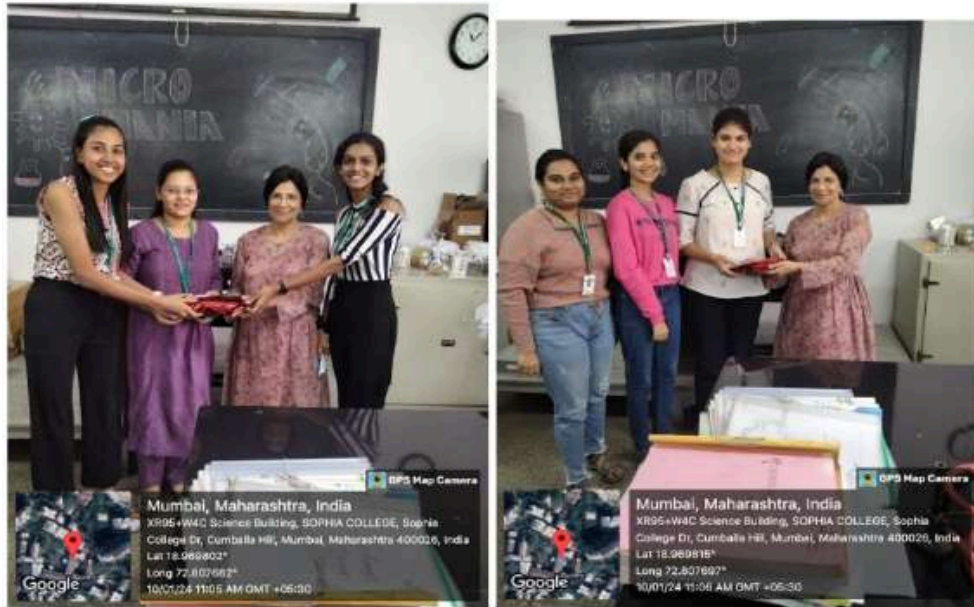
ACTIVITY 2

Micromania

Intercollegiate game Competition on the theme of microbiology
(*Microbial Imposters, Cell-fie, Games, MicroHelper, Whisperer*)

Date - 10th Jan 2024

Number of students involved - 27



ACTIVITY 3

MICROGLAM Intercollegiate Competition & creativity event that included making Microdoodle, Micromeme, MicroKala(Face painting) based on the theme of microbiology

Venue - UG Microbiology Laboratory; Canteen Extension

Date - 12th Jan 2024

Number of students involved - 38



DEPARTMENT OF MICROBIOLOGY, SOPHIA COLLEGE
UNDER THE AEGIS OF STAR STATUS ORGANIZES

MICRO डूडल

(Micro doodle)

Join us for an event that delves into the world of microorganisms. Create the doodle on name of any microorganism of your choice, the doodle should reflect the features or significance of the organism.
Why wait when you can just doodle it?!

OPEN TO ALL UG, PG STUDENTS OF ALL DISCIPLINE

Date: 12 January, 2024
Time: 10:00 am - 11:00 am
Location: UG Microbiology lab

RULES

- Paints, sketch markers, and other supplies should be brought by the participants.
- We will provide you with sheets to do doodle on.
- Registration will remain open until 10:00 p.m. on 10th January, 2024.
- Doodles should not be copied, but participants are welcome to use a reference.
- Participants are asked to provide their individual college ID cards.
- Participants should report thirty minutes prior to the event time

For more details contact:
Sakshi Sakunde: 8928580995
Pratiksha Sharma: 9305264595
Khushi Jain: 9802908844



DEPARTMENT OF MICROBIOLOGY, SOPHIA COLLEGE
UNDER THE AEGIS OF STAR STATUS ORGANIZES

MICRO कला

(Face painting)

Get ready with your paints and brushes to dive into the world of microbiology 🦠. It is a face painting event based on the theme microbiology so gear up! Get your models and make them look like a wow! 🤩

The participants must use their imaginations to creatively portray microbiological concepts and techniques through face painting. A ramp walk with the models and painters will follow.

OPEN TO UG, PG STUDENTS OF ALL DISCIPLINE

Date: 12 January, 2024
Time: 11:30 am to 12:30 pm (Rampwalk at 12:30 pm)
Location: UG Microbiology lab

RULES

- It is recommended that participants bring their own paints, brushes, and models.
- Participants are permitted to bring reference images.
- It is required of participants to carry their individual college ID cards.
- Participants should report thirty minutes prior to the event time
- Registration is available until 10th January 2024, at 10:00 p.m.



DEPARTMENT OF MICROBIOLOGY, SOPHIA COLLEGE
UNDER THE AEGIS OF STAR STATUS ORGANIZES

MICRO मीम

(micro MemE)

Let's make life more interesting by creating memes on microorganisms with little Bollywood twist. Make a meme on microbes and microbiologist's life; turning it into any popular Bollywood movie dialogue with some humor and wit 😜

OPEN TO ALL UG, PG STUDENTS OF ALL DISCIPLINE

Date: 12 January, 2024
Time: 11:00 am to 11:30 am
Location: UG Microbiology lab

RULES

- Memes should be in the form of moving gif or still jpeg image (printable).
- 10/36 size to microbiology.sophia@gmail.com, on or before 10th Jan open as an attachment.
- Kindly do mention your detail like name, mobile, class, subject, college in the email.
- The memes will be showcased on screen in the UG micro lab on 12th January, 2024 to select the prize winners.
- The final winners will be asked to come on the day of prize distribution.
- It is required of participants to carry their individual college ID cards.
- Participants should report thirty minutes prior to the event time.
- Registration is available until 10th January, 2024, at 10:00 p.m.

ACTIVITY 4

Microkahaniya- Intercollegiate story writing Competition on the theme of microbes


Venue SOPHIA COLLEGE

Date - 20th Jan 2024

Number of students involved - 10

**DEPARTMENT OF MICROBIOLOGY
SOPHIA COLLEGE**
*Under the aegis of Star status
Organizes*

MicroKahaniya



Short story writing competition

*Write an engaging short story on the theme of microbiology:
The story should direct attention towards the omnipresent microbial world
and our inevitable encounter with them in day to day life activities.
The readers should be captivated by the story, and realize that microbiology has
always been an integral part of human life and will define our future too.
Open to all UG, PG students of any discipline.
Register your name/contact details by filling the google by 15th December 2023
<https://forms.gle/77MV5EMFN5hVDFn7>
[Guidelines & instructions for Participants](#)*

Content: Original unpublished, written in English or Hindi, between 500 and 2,000 words **Genre:** *seary, mystery ,suspense-thriller, detective or sci-fi.*

Format: Google doc/ word doc / pdf. The title of the document should be the title of your story. **Font :** Cambria/Times new roman, font size 12, and 1.15 line spacing. Submit your short story and storyline by Email to microbiology@sophia@gmail.com **Participation fees:** None



ACTIVITY 5

Good Microbe-Bad Microbes: Science Day Outreach Activity

Students of explained and demonstrated the interesting facts about the microbial world to school students

Date - 28th Feb. 2024

DURATION: 8 am to 2 pm

Number of students involved - 22 volunteers, 65 school children.

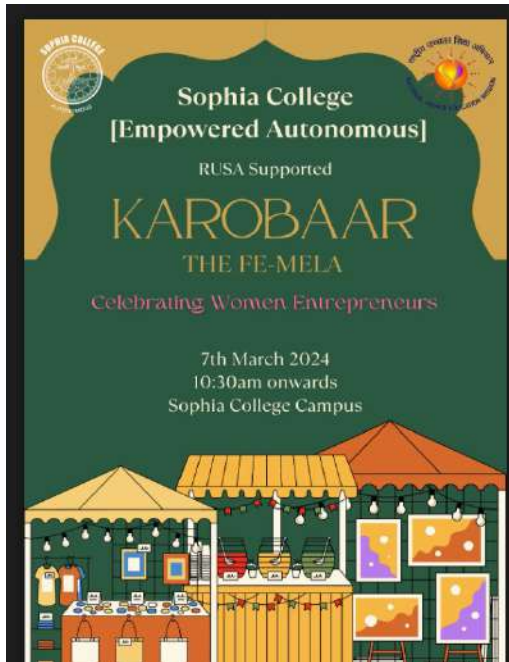


ACTIVITY 6

Karobar- Entrepreneurship event organized jointly by the department of Microbiology and Department of Sociology and Chemistry

Date : 7th March 2024

Participants from the department of Microbiology : 17 students



ACTIVITY 7

Screening of the movie "12th Fail" aligning with the theme of the year "Aspire Acquire Inspire,"

Date - January 17th, 2024.

Number of students involved - all undergraduate and graduate students of the department.

2. Field trips

FIELD TRIP 1

Open day visit to Advanced Centre for Treatment, Research, and Education in Cancer (ACTREC), Navi Mumbai

Date :30th November 2023

Number of students involved - 5 TYBSc and 8 MSc-II students



FIELD TRIP 2

Nehru Science center, Science odyssey

Date : 11th Dec. 2023

Number of students involved -16 students (FYBSc)



FIELD TRIP 3

Indian Institute of Science Education and Research (IISER), Pune

Date : 6th March 2024

Number of students involved -53 students



3. Special pedagogical tools used, other than the lecture method

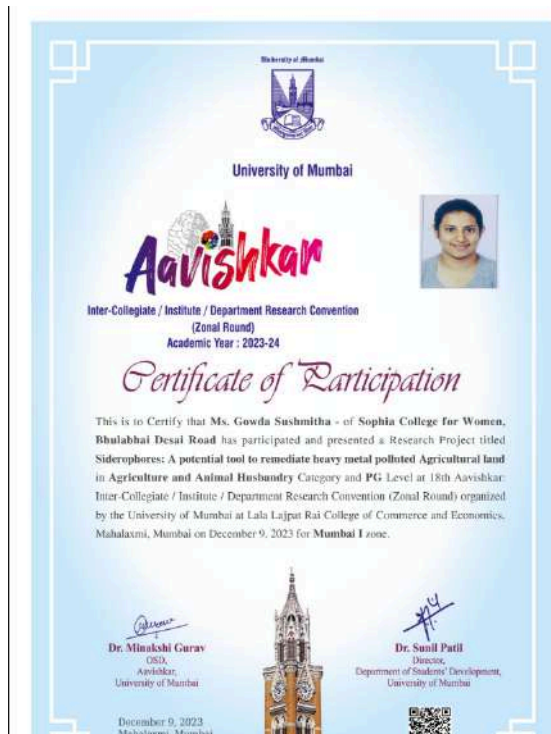
1. Use of multimedia like PPTs, Canva
2. Youtube Videos and Animations
3. Virtual labs
4. Seminar presentation by students
5. Creation of infographics
6. Quizzes, Crosswords
7. Flipped Classroom
8. Role play
9. Survey based assignments /
10. Literature reviews
11. Models /Exhibitions / Poster presentations
12. Online quizzes

4. Mentor Mentee programs conducted by the department.

The department was a part of the Mentor Mentee programme conducted by the college. One counseling session was held per term by both the teachers.

5. Research Papers Presented

- I. Ms. Sushmita Gowda (MSC II) participated and presented a poster in the zonal round of Aavishkar Research convention on 9th December 2023.



ii. A PhD student of the Department of Microbiology under guidance of Dr. A. Surti presented her work at a National Conference on “Scientific Approaches For Sustainable Environment.” on 4th-5th December 2023 organized by the Wilson College (Autonomous) in collaboration with University of Mumbai. She won first prize in the category of Life Science.

6. Research Guide for PhD students - Dr. Arjumanara Surti

7. Department/ lecturers having research projects funded by Government (include RUSA), Non-Government agencies, college during the year.

Shraddha Prabhu: Isolation And Evaluation Of Polycyclic Aromatic Hydrocarbon (PAH) Degraders As A Source Of Single-Cell Protein (SCP) Supported By : Lobo Dubey Research Scholarship

8. Workshops/seminars/ Conferences conducted during the year.

- i. A talk on Gut Microbiome- Axis in Human health and Disease by Dr Vikrant Bhor - Deputy director NCMR on Friday, 15th Sept 11.30 to 12.30pm
- ii. An Orientation session on ‘Scope and opportunities in Microbiology’ for Class XII students of Sophia College on 25th October 2023.



9. Extension activities carried out in the neighborhood sensitizing students to social issues for their holistic development

GRACIOUS GIVING - CANCER AID DRIVE. (in collaboration with the Department of Education)

Date: February - March 2024.

Number of students involved - 33



Donation to daycare centre - 5 pulse oximeter, 5 steel glasses, 4 electric kettles



[Cancer Aid drive Report 23-2024](#)

10. Capacity Development and Skill Enhancement activities organized for improving students' capabilities; like Soft Skills, Language and Communication Skills, Life Skills (Yoga, Physical fitness, Health and Hygiene) & Awareness of Trends in Technology.

i) Skill enhancement activity :

Time management online session by Mr. Joshua Tivade

Date : 4th September, 2023

Number of students involved - 65

Purpose: was to educate students and faculty on effective time management strategies essential for enhancing productivity, reducing stress, and promoting overall well-being. It emphasized approaches such as goal-setting, prioritization, and mindfulness, aiming to equip participants with practical tools to improve their time management skills in academic and professional contexts.

17. Guidance/coaching for competitive examinations and career counselling offered to students - Career Scope sessions

Sr. no.	Session Title	Date / Mode	Duration	About the session	Number of students
1	Food technology. Resource person - Mrs. Nikita Bari. online mode.	13th January, 2024 (4pm to 5pm)	1 hr	The session provided insights into various career paths available in the food industry, enhancing their understanding and readiness for future endeavors in New Zealand's food sector.	61
2	Career opportunities in Virology.- Resource person -Mr. Finny Varghese. online mode.	9th February, 2024 (6pm to 7pm) online mode.	1 hr	The session underscored the opportunities available in academia, biotechnology, and pharmaceutical sectors, equipping participants with valuable knowledge to pursue impactful careers in virology.	55
3	Food and Nutrition: career as a Dietician. Resource person - Ms. Ruchita Gaikwad..	19th February, 2024 (6pm to 7pm) online mode.	1 hr	Essential knowledge to pursue impactful careers in nutrition and dietetics, emphasizing the field's potential to contribute to public health and well-being was provided	45
4	QA- Unleashed : Where you shine bright and careers take a flight. Resource person - Mr Romic Mevada and Ms. Samantha Fonseca.	24th February, 2024, (11.15am to 12.15pm) AV hall, Sophia College for Women.	1 hr	Insights into the roles, responsibilities, and essential skills required in QA/QC across various industries, fostering a comprehensive understanding among attendees to pursue successful careers in this critical field were provided.	90
5	Navigating through the career opportunities in clinical research	24th February, 2024, (12.30pm to 1.30pm) AV hall, Sophia College for Women.	1 hr	Attendees gained insights into the advantages of international education and networking in advancing their careers in clinical research, making the session an invaluable resource for aspiring professionals in the healthcare research sector.	76
6	Exploring career opportunities in Nutraceuticals and food technology.	24th February, 2024 (1.30pm to 2.30pm) AV hall, Sophia College for Women.	1 hr	Attendees gained knowledge about essential disciplines like food chemistry, microbiology, and regulatory standards, encouraging them to explore further education and training in food science and technology.	73