

“Social Transformation Through Dynamic Education”



Bharati Vidyapeeth's

Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya,

Kadegaon. Dist. Sangli

Department of Microbiology

Value added Certificate Course in

“Antimicrobial Resistance”

2022-2023



Bharati Vidyapeeth's
Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya, Kadegaon. Dist. Sangli
Department of Microbiology

Brief Report: Value Added Course- Value added course-Antimicrobial Resistance

Academic Year – 2022-23

Program Details:

- Title: Value Added Course- Value added course-Antimicrobial Resistance
- Programme Coordinator: Miss. T.A. Jadhav
- Organizing Department: Department of Microbiology
- Number of Participants: 25
- Duration of the Course: 1 month
- Academic Year: 2022-23

Introduction:

The Value-Added Course - Antimicrobial Resistance, coordinated by Miss. T.A. Jadhav and organized by the Department of Microbiology, took place during the academic year 2022-23. The program aimed to provide participants with specialized knowledge and insights into the critical issue of antimicrobial resistance (AMR), one of the most significant challenges in the field of healthcare and microbiology.

Program Objectives:

The Value-Added Course - Antimicrobial Resistance for the academic year 2022-23 had the following key objectives:

1. **In-depth Understanding:** To deepen participants' understanding of antimicrobial resistance, its causes, mechanisms, and implications for public health.
2. **Awareness and Prevention:** To raise awareness about the global AMR crisis and empower participants with knowledge about strategies for its prevention and control.
3. **Interdisciplinary Collaboration:** To encourage interdisciplinary collaboration among participants from diverse backgrounds in healthcare, microbiology, and related fields.

Program Highlights:

The program featured a specialized curriculum that combined theoretical learning with practical insights. Participants engaged in informative lectures, interactive workshops, case-based discussions, and seminars. The curriculum covered a range of pertinent topics, including:

- Mechanisms of antimicrobial resistance
- Antibiotic stewardship and rational use of antibiotics
- AMR surveillance and monitoring
- One Health approach to AMR
- Emerging challenges and future prospects in tackling AMR

Interactive sessions and discussions facilitated active participation and engagement among participants.



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Department of Microbiology

Participant Engagement:

Throughout the course, participants demonstrated keen interest and active involvement. Interactive workshops and case studies allowed participants to apply their knowledge to real-world scenarios and share their perspectives on addressing the challenges posed by antimicrobial resistance.

Conclusion:

The Value-Added Course - Antimicrobial Resistance conducted during the academic year 2022-23, under the coordination of Miss. T.A. Jadhav and organized by the Department of Microbiology, successfully achieved its objectives. By imparting specialized knowledge and fostering awareness about antimicrobial resistance, the program equipped participants with the understanding needed to address this critical issue. The course, spanning one month, provided participants with a platform to bridge the gap between theoretical knowledge and practical insights, preparing them to contribute effectively to the fight against antimicrobial resistance in their respective fields of expertise.

Head,
Dept. of Microbiology
Bharati Vidyapeeth's
M.B.S.K. Kanya Mahavidyalaya,
Kadegaon, Dist. Sangli



I/c. Principal
B.V.M.S.K. Kanya Mahavidyalaya
Kadegaon, Dist. Sangli

**BOARD OF STUDIES (BOS)
FOR
VALUE ADDED COURSE**

Antimicrobial Resistance

- | | |
|--------------------------|--|
| 1. Mr. S. S. Shinde | Chairman
(B V M B S K Kanya Mahavidyalay Kadegaon) |
| 2. Mr. J. V. Kuwar | Member
(B V M B S K Kanya Mahavidyalay Kadegaon) |
| 3. Dr. A. S. Pawar | Member
(B V M B S K Kanya Mahavidyalay Kadegaon) |
| 4. Mrs. B. K. Bhavikatti | Member
(B V DPKM, Sangli) |
| 5. Dr. M. J. Dhanwade | Member
(B V DPKM, Sangli) |



M. J. Dhanwade
Vc. Principal
B.V.M.B.S.K. Kanya Mahavidyalaya,
Kadegaon, Dist. Sangli

BVP's Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya, Kadegaon

Department of Microbiology Value Added Course (VAC) (2022-2023)

'Antimicrobial Resistance'

Syllabus

Unit I – Antimicrobials and Antimicrobial action

Introduction, major group of antimicrobials, classification, effect of antimicrobials, action of antimicrobials on bacterial cells.

Unit II – Antimicrobials and resistance

Antimicrobials and their development of resistance in bacteria including cause for resistance, mechanism of resistance, resistance dissemination and its selection.

Unit III – Antimicrobial susceptibility testing

Antimicrobial susceptibility testing in laboratory, its importance and use, methods and application –Disk diffusion, agar dilution and broth dilution.

Unit IV – Interpretation and quality assurance

Interpretation of microbial susceptibility results. Quality assurance and Quality assurance procedures and use of QC strains to assure the quality of results of antimicrobial susceptibility testing: Importance, elements and principles.

Unit V – Specific Resistance

- 1) Beta-lactam resistance in *E. Coli*
- 2) Beta-lactam resistance in *S. aureus*
- 3) Colistine resistance in Enterobacteriaceae

Practical

- Isolation of antimicrobial resistance microorganisms from given sample
- Antimicrobial susceptibility test
- Disk diffusion test
- Agar dilution test
- Broth dilution test
- Agar well diffusion test

DEPARTMENT OF MICROBIOLOGY

Value Added Course- Antimicrobial Resistance

Time table-2022-23

Course duration- 30 days

07/01/2023 to 07/02/2023 (Only on Friday and Saturday)

Time	Friday	Saturday
03.00 pm to 3.50 pm	SSS/ASP	JVK/TAJ
3.50 pm to 4.40 pm	JVK/TAJ	SSS/ASP

*SSS - Mr. S.S Shinde

*JVK- Mr. J.V Kuwar

*ASP- Dr. A.S Pawar

*TAJ- Ms. T.A Jadhav



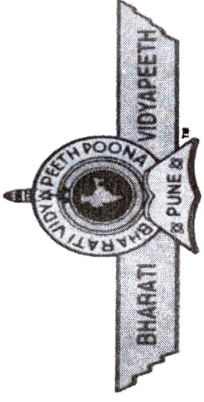
Head

Department of Microbiology

Head,
Dept. of Microbiology
Bharati Vidyapeeth's
M.B.S.K. Kanya Mahavidyalaya,
Kadegaon, Dist. Sangli



Principal
B.V.M.B.S.K. Kanya Mahavidyalaya
Kadegaon, Dist. Sangli



1964-2014
celebrating



Golden Jubilee
BHARATI VIDYAPEETH
Founder Member Dr. Patangrao Kadam

Social Transformation Through Dynamic Education

Bharati Vidyapeeth's

Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalya, Kadegaon

Certificate

*This is to certify that Mrs./Miss.....has passed the " Value Added
Certificate Course of Antimicrobial Resistance ". Examination withGrade held in the month of
..... (Year).....The said certificate has been issued in testimony whereof are set the seal of the
college and signatures of the Coordinator, Head, Department of Microbiology and Principal of the College.*

Coordinator

Head

Principal



**Bharati Vidyapeeth's Matoshri Bayabai Shripatrao Kadam Kanya
Mahavidyalaya, Kadegaon
Department of Microbiology**

Student List – Value Added Course 2022-2023

Sr. No.	Name of student	Roll No.
1.	Deokar Gouri Rajendra	15451
2.	Dhanawade Mayuri Hanamant	15452
3.	Gharge Amruta Adhikrao	15453
4.	Gharge Komal Tanaji	15454
5.	Gharge Tanuja Rajendra	15455
6.	Gurav Pranoti Sitaram	15456
7.	Jagtap Kajal Sambhaji	15457
8.	Kadam Prajka Dilip	15458
9.	Kadam Sanika Dattatraya	15459
10.	Kokare Tejasvi Vasant	15460
11.	Mane Nikita Ananda	15461
12.	Mane Priti Subhash	15462
13.	Mane Shailaja Sanjay	15463
14.	More Laxmi Dhanaji	15464
15.	More Shruti Sayajirao	15465
16.	Mulani Lubna Harun	15466
17.	Mulik Ashwini Jotiram	15467
18.	Mulla Hina Tajmul	15468
19.	Patil Durga Arvind	15469
20.	Patole Ashwini Babaso	15470
21.	Pawar Nisha Shivaji	15471
22.	Pawar Sanyogita Prakash	15472
23.	Pisal Pratiksha Ambadas	15473
24.	Salunkhe Samruddhi Dipak	15474
25.	Suryawanshi Pallavi Pandurang	15475



M. J. J.
Principal
Vc. Principal
B.V.M.B.S.K. Kanya Mahavidyalaya,
Kadegaon, Dist. Sangli



**Bharati Vidyapeeth's
Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalay,
Kadegaon
'Antimicrobial Resistance'**

Value added certificate course

Attendance Sheet Theory-2022-2023

Sr No	Name of the students	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1.	Devakar Gouri Rajendra	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
2.	Dhanawade Mayuri Hamant	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
3.	Gharage Amruta Adhikrao	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG	A-AG
4.	Gharage Komal Tanaji	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
5.	Gharage Tanuja Rajendra	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
6.	Gurav Pranoti Sitaram	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
7.	Jagatap kaja Sambhaji	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
8.	Kadam Prajakta Dilip	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
9.	Kadam Sanika Dattatray	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
10.	Kokare Tejasvii Vasant	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
11.	Mane Nikita Ananda	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
12.	Mane Priti Subhash	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
13.	Mane Shailaja Sanjay	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
14.	More Laxmi Dhanaji	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
15.	More Shruti Sayajirao	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
16.	Mulani Lubana Harun	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
17.	Mulik Ashwini Jotiram	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
18.	Mulla Hina Tajmul	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
19.	Patil Durga Arvind	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
20.	Patole Aswini Babaso	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
21.	Pawar Nisha Shivaji	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
22.	Pawar Sanyogita Prakash	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
23.	Pisal Pratiksha Ambadas	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
24.	Salunkhe Samrudhi Dipak	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
25.	Suryawanshi Pallavi Pandurang	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab



I/c. Principal
B.V.M.B.S.K. Kanya Mahavidyalaya
Kadegaon, Dist. Sangli



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Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya,
Kadegaon**

‘Antimicrobial Resistance’

Value added certificate course

Attendance Sheet Theory-2022-2023

Sr No	Name of the students	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1.	Devakar Gouri Rajendra	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
2.	Dhanawade Mayuri Hanmant	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab	Mayuri	Ab
3.	Gharage Amruta Adhikrao	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG	AAG
4.	Gharage Komal Tanaji	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal
5.	Gharage Tanuja Rajendra	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab	Tanuja	Ab
6.	Gurav Pranoti Sitaran	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav	Gurav
7.	Jagatap kajal Sambhaji	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal
8.	Kadam Prajakta Dilip	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab	Prajakta	Ab
9.	Kadam Sanika Dattatray	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika	Sanika
10.	Kokare Tejasvii Vasant	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii	Tejasvii
11.	Mane Nikita Ananda	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab	N.A. Mane	Ab
12.	Mane Priti Subhash	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab	P. S. Mane	Ab
13.	Mane Shailaja Sanjay	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane
14.	More Laxmi Dhanaji	L. D. More	More	L. D. More	More	L. D. More	More	L. D. More	More	L. D. More	More	L. D. More	More	L. D. More	More	L. D. More	More
15.	More Shruti Sayajirao	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
16.	Mulani Lubana Harun	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana	Lubana
17.	Mulik Ashwini Jotiram	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab	Ashwini	Ab
18.	Mulla Hina Tajimul	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina	Hina
19.	Patil Durga Arvind	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga	Durga
20.	Patole Aswini Babaso	Aswini	Ab	Aswini	Ab	Aswini	Ab	Aswini	Ab	Aswini	Ab	Aswini	Ab	Aswini	Ab	Aswini	Ab
21.	Pawar Nisha Shivaji	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha	Nisha
22.	Pawar Sanyogita Prakash	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita	Sanyogita
23.	Pisal Pratiksha Ambadas	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha
24.	Salunkhe Samrudhi Dipak	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi	Samrudhi
25.	Suryawanshi Pallavi Pandurang	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab	Pallavi	Ab





Bharati Vidyapeeth's
Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya, Kadegaon
Department of Microbiology
Value Added Course (VAC)
(2022-2023)
Antimicrobial Resistance

Date:

Total Marks: 30

Time:

Q. 1 Describe in detail antimicrobials and their development of resistance in bacteria.

07

OR

Q. 1 Explain in detail antimicrobial susceptibility testing in laboratory.

Q. 2 Explain in detail Beta- lactam resistance in *E. coli*

07

OR

Q. 2 Give detail information about classification of antimicrobials and their action on bacterial cells.

Q. 3 Short note (Any Four)

16

a) Cause of antimicrobial resistance

b) Beta- lactam resistance in *S. aureus*

c) Importance of antimicrobial susceptibility testing

d) Colistine resistance in Enterobacteriaceae

e) Disk diffusion test

f) Resistance dissemination



Bharati Vidyapeeth's
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Department of Microbiology
Value Added Course (VAC)
(2022-2023)
Antimicrobial Resistance
Practical Exam

Date:

Total Marks: 20

Time:

- | | |
|--|-----------|
| Q. 1 Isolation of antimicrobial resistance microorganisms from given sample | 10 |
| OR | |
| Q. 1 Antimicrobial susceptibility test | |
| Q. 2 Disk diffusion test / Agar dilution test | 05 |
| Q. 3 Broth dilution test / Agar well diffusion test | 05 |



**Bharati Vidyapeeth's
Matoshri Bayabai Shripatrao Kadam Kanya Mahavidyalaya, Kadegaon
Department of Microbiology**

Value Added Course [VAC]

'Antimicrobial Resistance'

Year- 2022-2023

Roll No.	Name of the students	Marks		Total	Grade
		Theory	Practical		
15451	Devakar Gouri Rajendra	20	17	37	A
15452	Dhanawade Mayuri Hanmant	18	16	34	A
15453	Gharage Amruta Adhikrao	20	18	38	A
15454	Gharage Komal Tanaji	16	17	33	A
15455	Gharage Tanuja Rajendra	23	18	41	A+
15456	Gurav Pranoti Sitaram	22	19	41	A+
15457	Jagatap kajal Sambhaji	20	17	37	A
15458	Kadam Prajakta Dilip	19	15	34	A
15459	Kadam Sanika Dattatray	24	17	41	A+
15460	Kokare Tejasvii Vasant	15	17	32	A
15461	Mane Nikita Ananda	20	16	36	A
15462	Mane Priti Subhash	23	16	39	A
15463	Mane Shailaja Sanjay	17	18	35	A
15464	More Laxmi Dhanaji	22	18	40	A+
15465	More Shruti Sayajirao	24	17	41	A+
15466	Mulani Lubana Harun	16	17	33	A
15467	Mulik Ashwini Jotiram	19	16	35	A
15468	Mulla Hina Tajmul	19	15	34	A
15469	Patil Durga Arvind	22	19	41	A+
15470	Patole Aswini Babaso	22	17	39	A
15471	Pawar Nisha Shivaji	16	17	33	A
15472	Pawar Sanyogita Prakash	15	17	32	A
15473	Pisal Pratiksha Ambadas	20	16	36	A
15474	Salunkhe Samrudhi Dipak	19	15	34	A
15475	Suryawanshi Pallavi Pandurang	20	15	35	A




I/c. Principal
B.V.M.B.S.K. Kanya Mahavidyalaya,
Kadegaon, Dist. Sangli