

"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

"Advanced Techniques in Clinical Microbiology"

2021-2022



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

Brief Report: Value Added Course- Advanced Techniques in Clinical Microbiology

Academic Year – 2021-22

Program Details:

- Title: Value Added Course- Advanced Techniques in Clinical Microbiology
- Programme Coordinator: Miss. T.A. Jadhav
- Organizing Department: Department of Microbiology
- Number of Participants: 40
- Duration of the Course: 1 month
- Academic Year: 2021-22

Introduction:

The Value-Added Course - Advanced Techniques in Clinical Microbiology, organized by the Department of Microbiology and coordinated by Miss. T.A. Jadhav, was conducted during the academic year 2021-22. The program aimed to provide participants with specialized knowledge and hands-on experience in advanced clinical microbiology techniques, enabling them to excel in the rapidly evolving field of medical diagnostics and research.

Program Objectives:

The Value-Added Course - Advanced Techniques in Clinical Microbiology for the academic year 2021-22 had the following key objectives:

1. **Skill Enrichment:** To enhance participants' proficiency in state-of-the-art techniques used in clinical microbiology, preparing them for roles in diagnostic laboratories, research institutions, and healthcare settings.
2. **Contemporary Insight:** To offer participants insights into cutting-edge technologies, emerging trends, and innovative methodologies in clinical microbiology.
3. **Practical Application:** To empower participants to apply advanced techniques for the identification, characterization, and management of microorganisms that have clinical relevance.

Program Highlights:

The program featured a comprehensive curriculum that blended theoretical knowledge with practical training. Participants engaged in specialized lectures, interactive workshops, hands-on laboratory sessions, and case-based discussions. The curriculum covered a range of advanced topics, including:

- Diagnostic immunology and serology
- Antimicrobial resistance testing and surveillance
- Diagnostic challenges in emerging infectious diseases

The practical sessions allowed participants to gain hands-on experience in performing complex laboratory techniques and interpreting diagnostic results.




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Participant Engagement:

Throughout the course, participants exhibited high levels of enthusiasm and active involvement. Interactive workshops and practical sessions facilitated collaborative learning, enabling participants to apply their knowledge in real-world scenarios and refine their technical skills.

Conclusion:

The Value-Added Course - Advanced Techniques in Clinical Microbiology conducted during the academic year 2021-22, under the coordination of Miss. T.A. Jadhav and organized by the Department of Microbiology, successfully met its objectives. By imparting specialized knowledge and practical expertise in advanced clinical microbiology techniques, the program equipped participants with the proficiency needed to excel in diagnostic laboratories and research endeavors. The course, spanning one month, provided participants with a platform to bridge the gap between theoretical understanding and hands-on application in the dynamic field of clinical microbiology, preparing them for roles that demand expertise in diagnostic methodologies and techniques.


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




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

BOARD OF STUDIES (BOS)
FOR
VALUE ADDED COURSE

Advanced Techniques In Clinical Microbiology

- | | |
|--------------------------|--|
| 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
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| 5. Dr. M. J. Dhanwade | Member
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Mr. S. S. Shinde

Head of Department
Dept. of Microbiology
Bharati Vidyalaya,
Kadegaon, Dist. Sangli



Principal
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Kadegaon, Dist. Sangli

**BVP's MatoshreeBayabaiShripatraoKadam Kanya Mahavidyalaya
Kadegaon, Dist. Sangli.**

Department of Microbiology

**Value Added Course [VAC]
Advance Techniques in Clinical Microbiology**

Learning object: To learn the basic and advanced techniques in clinical laboratory

❖ Course outcomes:

At the end of the course students will be able to

Course outcome 1: Understand laboratory safety methods

Course outcome 2: understand pathological analysis of clinical specimens

Course outcome 3: Gain knowledge about am techniques in clinical laboratory technology

Syllabus

Unit I

Laboratory safety: Organisation of laboratory and safety precautions in laboratory - personal hygiene and care, general Health Care, vaccination schedule for technicians, laboratory care and cautions, does and don'ts, lab accidents, cut and wounds, fire accidents(chemical gas, flammable, chemicals electrical spirit lamp, gas) chemical burns.

Unit II

Sample analysis: Sample collection, Processing, Preservations and Transportation of various clinical pathology samples, Pathological analysis of clinical specimens.

Unit III

Microscopic analysis: Microscopic analysis of clinical specimen- urine, stool, sputum, pus, blood, CSF and other body fluids.

Unit IV

Culture methods: culturing and isolation of pathogens from clinical specimens.

Culture media- general purpose media, special media, selective media, differential media and transport media.

Unit V

Advanced techniques and automation:

ELISA,PCR, Fluorescence microscopy, Automated culture system, Blood culture, Automated urine culture, Automated antibiotic sensitivity testing.

Text Books:

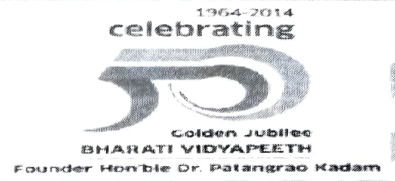
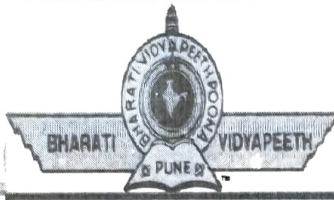
1. Ananth Narayan R and Panikar C. K textbook of microbiology, 9th edition Orient Longman (2013).
2. P.Chakraborty, A textbook of microbiology 3rdedn.New central book agency ltd.Kolkata,India (2005).
3. Praful Godkar, Darsan (2014) textbook of medical laboratory Technology Vol. I and II, Bhalani Publication House.
4. James Cappuccino, Natalie Shamans (2004), microbiology: A laboratory manual 7th edition.

Supplementary books:

5. Ochie J and A. kolhatkar(2000), medical laboratory science:Theory and practical (practice) McGraw Hill education.
6. Sood Ramnik(2009), medical laboratory Technology: methods and interpretations.Jaypee brothers medical publishers Pvt.Ltd.
7. Glick B. J,Pasternak J. J,Patten C. L (1994). molecular biotechnology: principles and applications of recombinant DNA, 4th edition, ASM press.
8. David Greenwood,Richars slack and John Peatherer(2000), medical microbiology,15th edition,Church Hill Livingston Publications.

Practicals

- 1) Sample analysis:Sample collection, processing and preservation (Stab and Slant Method)
- 2) Pathological analysis- Widal test, Blood group detection, ELISA.
- 3) Microscopic analysis of clinical specimen- Urine, Blood, Stool, Sputum
- 4) Antibiotic sensitivity test.
- 5) Isolation of pathogens from clinical specimen:
Staphylococcus aureus
Proteus vulgaris
Candida albicans



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Kanya Mahavidyalaya, Kadegaon

Certificate

*This is to certify that Mrs./Miss.....has
passed the Value Added Course "Advanced Techniques in Clinical*

*Microbiology" 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

Seal of the College

DEPARTMENT OF MICROBIOLOGY

Value Added Course- Advanced Techniques in Clinical Microbiology

Time table-2021-22

Course duration- 30 days

07/01/2022 to 07/02/2022 (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


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Department of Microbiology**

Value Added Course [VAC]

Advanced Technique in Clinical Microbiology

Year- 2021-2022

Date:

Total Marks:30

Time:

Note: All Questions are compulsory

Q.1 Give detailed information about various methods of collection of sample and sample processing. 07

OR

Q.1 Explain in detail Preservation and Transportation of Various clinical pathology samples.

Q.2 Explain in detail PCR. 07

OR

Q.2 Give Detailed information about organization of laboratory and safety precautions in laboratory.

Q.3 Short Notes (Any four) 16

- a) Automated Antibiotic Sensitivity Testing.
- b) Widal Test.
- c) Culture Media with Example.
- d) Microscopic Analysis : Urine.
- e) Culturing and Isolation of Pathogens.
- f) Fluorescence Microscopy.



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Value Added Course [VAC]

Advance Techniques in Clinical Microbiology

Practical Exam 2021-2022

Date:

Total marks: 20

Time: 11:00 To 2.00 PM

Q.1 Isolation of pathogens from clinical specimen : *staphylococcus aureus*/ *Proteus vulgaris*/
Candida albicans 10

OR

Antibiotic sensitivity test.

Q.2 Pathological analysis : Widal test/ Blood group detection. 05

Q.3 Microscopic analysis of clinical specimen – Urine/ Blood/ Stool/ Sputum 05




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Department of Microbiology
Value Added Course [VAC]

Advanced Technique in Clinical Microbiology

Year- 2021-2022

Sr No	Name of the students	Marks		Total	Grade
		Theory	Practical		
1.	Babar Supriya Sunil	20	17	37	A
2.	Chavan Divya Rajaram	18	16	34	A
3.	Domb Akshata Rajendra	20	18	38	A
4.	Gharge Priyanka Vittal	16	17	33	A
5.	Gharge Rutuja Dilip	23	18	41	A+
6.	Gharge Mayuri Arjun	22	19	41	A+
7.	Honmane Priyanka Dilip	20	17	37	A
8.	Jadhav Rutuja Rajaram	19	15	34	A
9.	Jagadale Varsharani Dhanaji	22	17	39	A
10.	Jagadale Arpita Vilas	15	17	32	A
11.	Jadhav Manisha Sambhaji	20	16	36	A
12.	Kadam Shilpa Prakash	23	16	39	A
13.	Kumbhar Payal Ramchandra	17	18	35	A
14.	Kumbhar Vaishnavi Pandurang	22	18	40	A+
15.	Karande Nikita Namdev	24	17	41	A+
16.	Londhe Pratiksha Balu	16	17	33	A
17.	Mahadik Priyanka Tulshiram	19	16	35	A
18.	Mane Smita Nivas	19	15	34	A
19.	More Shubhangi Sharad	17	18	35	A
20.	More Pranali Rajendra	22	17	39	A
21.	More Nikita Ravindra	16	17	33	A
22.	Mulani Simran Shabbir	15	17	32	A
23.	Mulik Santoshi Shashikant	20	16	36	A
24.	Patil Rutuja Janardan	19	15	34	A
25.	Patil Vaishnavi Sachin	20	15	35	A
26.	Patil Anupama Anil	23	18	41	A+
27.	Patil Gitanjali Panditrao	22	16	38	A
28.	Patil Ankita Jagannath	21	17	38	A
29.	Pawar Amruta Annasaheb	22	19	41	A+
30.	Pawar Neha Murlidhar	18	15	33	A
31.	Pawar Aishwarya Bजारंग	24	18	42	A+
32.	Salunkhe Vaishnavi Lalaso	20	17	37	A
33.	Shewale Pranali Nandkishor	19	15	34	A
34.	Shinde Akansha Shripati	20	18	38	A
35.	Surywanshi Neha Vikas	22	17	39	A
36.	Yadav Namrta Rajendra	24	19	43	A+
37.	Yadav Pratiksha Vikram	18	16	34	A
38.	Yadav Poonam Tukaram	22	17	39	A


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