

**SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S  
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR**

**UG Department of Microbiology  
Add on Course: Medical Microbiology and Immunology  
Session 2023-24**

**Course Coordinator Report**

A free Add-On Course for UG students in the Department Microbiology, Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur was held from 01<sup>st</sup> August 2023 to 07<sup>th</sup> October 2023. The course title was "Medical Microbiology and Immunology". It is the complete beginner to Expert Course was perfect for anyone who wants to learn Medical Microbiology and Immunology.

The Medical Microbiology and Immunology course is designed to provide a comprehensive understanding of medical microbiology and immunology. It covers the identification and characterization of pathogens, the interactions between pathogens and hosts, and the mechanisms of the immune response. Emphasis is placed on diagnostic techniques and practical skills essential for disease management and research in clinical settings.

The course duration was 10 weeks (30 hours). Two theory classes were engaged on Friday & Saturday and one Practical was engaged in every week. The structure of marking system was 50 marks on theory paper and 40 marks on practical examination including 10 marks for internal. The question paper of theory examination was in MCQ type of 25 questions with four multiple choices. Practical examination was also taken on this course for 40 marks. Internal marks assessment was on the basis of regularity, attendance, assignment submission etc. All the 85 students were present in both theory and practical examination. The result was prepared and certificates were also distributed to the students.



*S. Sanchari*  
**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S  
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology  
Add on Course: Medical Microbiology and Immunology  
Session 2023-24

To,  
The Principal  
SSES Amt's Science College,  
Congress Nagar, Nagpur-12

Subject: For permission to conduct the add on courses in Microbiology and  
Biotechnology department during the session 2023-2024

Respected Sir,

This is to request you that, the teachers of Microbiology and Biotechnology  
department have prepared the syllabus and modules of the 30 hours certificate  
courses for the session 2023-2024.

The details of the course module, syllabus and time table is submitted here  
with.

Hence please permit to run the add on courses and oblige me.

Thanking you

Yours sincerely

HEAD

Department of Microbiology  
Science College, Congress Nagar,  
NAGPUR.



Permitted  
N. D. Gore

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Permitted  
N. D. Liare



SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S  
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology

NOTICE

Date: 17/07/2023

All the students are informed that U.G. Department of Microbiology runs Add on Course: Medical Microbiology and Immunology for the session 2023-24. Interested students of B.Sc. are requested to register their names to the course Coordinator Ms. Sanchari Sarkar on or before 29/07/2023.



*S. Sarkar*  
Ms. Sanchari Sarkar  
Course- Coordinator  
Add on Course



**U.G. DEPARTMENT OF MICROBIOLOGY,  
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR**

Accredited with CGPA of 3.51 at 'A+' Grade by NAAC, Bangalore  
A College with Potential for Excellence  
An Institutional Member of APQN  
Recognized Center for Higher Learning & Research  
A Mentor College under Paramarsh Scheme of UGC, New Delhi  
A Mentor College under Paris Sparsh Scheme of Maharashtra State

**Add on Course for the Session 2022-23**  
*on*  
**Medical Microbiology and Immunology**

**Course Introduction**

This course provides a comprehensive understanding of medical microbiology and immunology. It covers the identification and characterization of pathogens, the interactions between pathogens and hosts, and the mechanisms of the immune response. Emphasis is placed on diagnostic techniques and practical skills essential for disease management and research in clinical settings.

**Course Objectives**

- **Identify** key pathogens and understand their roles in infectious diseases.
- **Analyze** host-pathogen interactions and their impact on human health.
- **Apply** immunological principles to understand the immune response.
- **Perform** diagnostic techniques for microbial infections and immunological assays.

**Registration Date: 29/07/2023**

**Prof. Atul Bobdey**  
*Coordinator*  
*Dept. of Microbiology*

**Prof. Mahendra Dhore**  
*Principal*  
*Science College, Nagpur*

**Ms. Sanchari Sarkar**  
*Course- Coordinator*  
*Add on Course*



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*Coordinator*  
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*Principal*  
*Science College, Nagpur*

**Ms. Sanchari Sarkar**  
*Course- Coordinator*  
*Add on Course*



## UG Department of Microbiology

### Add-On Certificate Course: Medical Microbiology and Immunology (Session 2023-24)

**Course Co-ordinator: Ms. Sanchari Sarkar**

#### **Course Description:**

Study of pathogens, host-pathogen interactions, and the immune response, including diagnostic techniques.

#### **Skills Gained:**

Microbial diagnostics, immunological assays, and disease management

#### **Course Introduction**

This course provides a comprehensive understanding of medical microbiology and immunology. It covers the identification and characterization of pathogens, the interactions between pathogens and hosts, and the mechanisms of the immune response. Emphasis is placed on diagnostic techniques and practical skills essential for disease management and research in clinical settings.

#### **Course Outcomes**

- **Identify** key pathogens and understand their roles in infectious diseases.
- **Analyze** host-pathogen interactions and their impact on human health.
- **Apply** immunological principles to understand the immune response.
- **Perform** diagnostic techniques for microbial infections and immunological assays.

**Instructional Strategies:** Theory class, Practical, Video clips, Models etc.

**Evaluation Strategies:** Oral discussions and Final MCQ examination

#### **Course Objectives**

- **Understand** the basic principles of medical microbiology and immunology.
- **Learn** about various pathogens, including bacteria, viruses, fungi, and parasites.
- **Explore** the mechanisms of the immune system and how it combats infections.
- **Gain** hands-on experience in microbial diagnostics and immunological testing.

**Duration of course:** Ten weeks (30 Hours)



*S. Sarkar*  
**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course

## UG Department of Microbiology


### Add-On Certificate Course: Medical Microbiology and Immunology (Session 2023-24)


#### Module: The Structure of Syllabus and system of evaluation

| Course  | Theory Papers and Practical   | Total Marks |          |           |
|---|---|-------------|----------|-----------|
|   |   | Theory      | Internal | Practical |
| Certificate Course in Medical Microbiology and Immunology | Theory paper- Medical Microbiology and Immunology<br>* Theory examination will be of MCQ pattern having 25 questions each with equal marks. | 50          | 10       | 40        |
|   | * Practical examination will be based on performance evaluation in the laboratory and hands-on-training                                     | 100         |          |           |

  
**Ms. Sanchari Sarkar**  
Add on Course Coordinator



  
**Dr. Amitabh Halder**  
IQAC Coordinator  
Internal Quality Assurance Cell  
(IQAC)  
S. S. E. S. A. Science College  
Congress Nagar, Nagpur.

  
**Prof. Mahendra Dhole**  
Principal  
**Principal**  
S. S. E. S. Amravati's  
Science College, Nagpur.



## UG Department of Microbiology

### Syllabus of Add-On Certificate Course: Medical Microbiology and Immunology (Session 2023-24)

#### Course Units

##### Unit 1: Introduction to Medical Microbiology

- **Topics:**
- Overview of microbiology and its branches.
- Classification of microorganisms.
- Pathogenicity and virulence factors.
- Overview of diagnostic microbiology.
- **Practical 1:**
- Microscopy techniques for identifying microorganisms.

##### Unit 2: Bacterial Pathogens and Diseases

- **Topics:**
- Major bacterial pathogens and their diseases.
- Mechanisms of bacterial infection and pathogenicity.
- Antibacterial agents and resistance.
- Diagnostic techniques for bacterial infections.
- **Practical 2:**
- Culturing and identifying bacterial pathogens.

##### Unit 3: Viral, Fungal, and Parasitic Infections

- **Topics:**
- Important viral, fungal, and parasitic pathogens.
- Disease mechanisms and host interactions.
- Antiviral, antifungal, and antiparasitic therapies.
- Diagnostic methods for viral, fungal, and parasitic infections.
- **Practical 3:**
- PCR and serological tests for viral infections.

##### Unit 4: Immunology and Immune Response

- **Topics:**
- Components and functions of the immune system.
- Innate and adaptive immunity.
- Immunopathology and autoimmune diseases.
- Vaccination and immunotherapy.
- **Practical 4:**
- Immunoassays (ELISA) for detecting antibodies.



*S. Sankar*  
**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course

**UG Department of Microbiology**  
**Add-On Certificate Course: Medical Microbiology and**  
**Immunology (Session 2023-24)**  
**Week-wise teaching plan:**

| Week   | Hrs. | Syllabus  |
|--------|------|---|
| Week 1 | 1    | Overview of microbiology and its branches.                      |
|        | 1    | Classification of microorganisms.                               |
|        | 1    | Pathogenicity and virulence factors                             |
| Week 2 | 1    | Overview of diagnostic microbiology                             |
|        | 2    | Major bacterial pathogens and their diseases.                   |
| Week 3 | 2    | Mechanisms of bacterial infection and pathogenicity.            |
|        | 1    | Antibacterial agents and resistance                             |
| Week 4 | 1    | Diagnostic techniques for bacterial infections                  |
|        | 1    | Important viral, fungal, and parasitic pathogens.               |
|        | 1    | Disease mechanisms and host interactions.                       |
| Week 5 | 1    | Antiviral, antifungal, and antiparasitic therapies.             |
|        | 2    | Diagnostic methods for viral, fungal, and parasitic infections. |
| Week 6 | 1    | Components and functions of the immune system.                  |
|        | 2    | Innate and adaptive immunity.                                   |
| Week 7 | 2    | Immunopathology   |
|        | 2    | autoimmune diseases   |
| Week 8 | 2    | Vaccination   |
|        | 2    | Immunotherapy   |
| Week 9 | 1    | Microscopy techniques for identifying microorganisms.           |

|         |   |  |
|---------|---|--|
|         | 1 | Culturing and identifying bacterial pathogens  |
| Week 10 | 1 | PCR and serological tests for viral infections |
|         | 1 | Immunoassays (ELISA) for detecting antibodies  |



*S. Sarkar*  
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**UG Department of Microbiology**  
**Add-On Certificate Course: Medical Microbiology and**  
**Immunology (Session 2023-24)**

**Time Table**

w.e.f. 01/08/2023

| Day      | Theory   |
|----------|--|
| Friday   | Sanchari Sarkar (R. no C9) Theory 4.00 PM - 5.00 PM    |
| Saturday | Sanchari Sarkar R. no C9) practical, 4.00 PM - 5.00 PM |
|          | Sanchari Sarkar (R. no C9) Theory, 4.00 PM - 5.00 PM   |



*S. Sarkar*

**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S  
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology

EXAMINATION NOTICE

Date: 09/10/2023

All the students enrolled for **Add on Course: Medical Microbiology and Immunology** for the session 2023-24 are informed that Theory and Practical Exam of the course is scheduled on 13/10/2023. All the appearing students are informed to remain present in Microbiology Laboratory at 10:30 – 11:30AM AM for Theory Exam and at 12:30PM – 5:30PM for Practical Exam.



*S. Sankar*  
**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course

**List of the Students: Add on Course- Medical Microbiology and Immunology**  
(Session 2023-2024)

| Sr. No. | Name of Student                       | Signature           |
|---------|---------------------------------------|---------------------|
| 1)      | Ambulkar Isha Pradnyanand             | <i>Iambulkar</i>    |
| 2)      | Anmadwar Khushi Rajendra              | <i>Anmadwar</i>     |
| 3)      | Bahadure Vanshita Dharmapal           | <i>Vanshita</i>     |
| 4)      | Bhagwat Ketki Aviraj                  | <i>Ketki</i>        |
| 5)      | Bhalkar Gauri Abhijit                 | <i>G Bhalkar</i>    |
| 6)      | Binekar Mansi Sevak                   | <i>M Binekar</i>    |
| 7)      | Bisen Riya Deliram                    | <i>R Bisen</i>      |
| 8)      | Borkar Mansvi Ravi                    | <i>M Borkar</i>     |
| 9)      | Borkar Nandini Ramkrushna             | <i>N Borkar</i>     |
| 10)     | Borkar Shreyasha Dinesh               | <i>S Borkar</i>     |
| 11)     | Buddhalwar Siddhi Vyankatesh          | <i>S Buddhalwar</i> |
| 12)     | Budhe Vinay Rajendra                  | <i>V Budhe</i>      |
| 13)     | Chauhan Shantanusingh Shailendrasingh | <i>S Chauhan</i>    |
| 14)     | Choudhari Shravani Ramesh             | <i>S Choudhari</i>  |
| 15)     | Dahat Surbhi Yograj                   | <i>S Dahat</i>      |
| 16)     | Daheriya Jaysika Ramkishan            | <i>J Daheriya</i>   |
| 17)     | Dahikar Sarwani Atul                  | <i>S Dahikar</i>    |
| 18)     | Das Chetana Shaktiprasad              | <i>C Das</i>        |
| 19)     | Datarkar Nayan Prakashrao             | <i>N Datarkar</i>   |
| 20)     | Dhote Shrishti Ravindra               | <i>S Dhote</i>      |
| 21)     | Doye Pranali Shrikrushna              | <i>P Doye</i>       |
| 22)     | Fiske Vedanti Jagdish                 | <i>V Fiske</i>      |
| 23)     | Fulzele Tannu Shailesh                | <i>T Fulzele</i>    |
| 24)     | Garode Gargi Shailesh                 | <i>G Garode</i>     |
| 25)     | Ghangare Priyanka Liladhar            | <i>P Ghangare</i>   |



|     |                                 |                   |
|-----|---------------------------------|-------------------|
| 26) | Gholse Leena Bhojraj            | <u>Gholse</u>     |
| 27) | Giri Yash Dilip                 | <u>Yash</u>       |
| 28) | Godse Siddhi Madhav             | <u>Godse</u>      |
| 29) | Gotmare Parikshit Deepak        | <u>Gotmare</u>    |
| 30) | Gurnule Madhavi Dhanraj         | <u>Madhavi</u>    |
| 31) | Gurve Aditi Ramkrushna          | <u>Aditi. G</u>   |
| 32) | Hadke Tejasvi Nitin             | <u>Tejasvi</u>    |
| 33) | Jain Shruti Ravikumar           | <u>Shruti</u>     |
| 34) | Jenekar Shreya Narendra         | <u>Jenekar</u>    |
| 35) | Kadu Kartik Vivek               | <u>Kadu</u>       |
| 36) | Kale Vaidehi Girish             | <u>Kale</u>       |
| 37) | Kamane Saurabh Jagdish          | <u>Kamane</u>     |
| 38) | Kamble Shatakshi Vijay          | <u>Shatakshi</u>  |
| 39) | Khadse Isha Eshwar              | <u>Khadse</u>     |
| 40) | Khaparde Sourabhi Rajendra      | <u>Khaparde</u>   |
| 41) | Khedule Tashu Vipul             | <u>Khedule</u>    |
| 42) | Khobragade Bhavesh Subhash      | <u>Bhavesh</u>    |
| 43) | Khorgade Shiwani Vasant         | <u>Shiwani</u>    |
| 44) | Kohad Purva Sanjay              | <u>Purva</u>      |
| 45) | Kolhe Yashaswi Pravin           | <u>Kolhe</u>      |
| 46) | Kudkelwar Janhvi Ravi           | <u>Kudkelwar</u>  |
| 47) | Lande Sonali Rajendra           | <u>Sonali</u>     |
| 48) | Lohakare Shravni Kawadu         | <u>Lohakare</u>   |
| 49) | Madavi Maithili Prabhakar       | <u>Maithili</u>   |
| 50) | Mahant Abhilasha Chandrashekhar | <u>Mahant</u>     |
| 51) | Manwatkar Mahi Pramod           | <u>Manwatkar</u>  |
| 52) | Masram Prajwal Prakash          | <u>Prajwal</u>    |
| 53) | Masram Samrudhi Subhash         | <u>Masram</u>     |
| 54) | Meshram Hemant Vikas            | <u>Hemant</u>     |
| 55) | Meshram Shrivin Navin           | <u>Meshram</u>    |
| 56) | Nagbhidkar Astha Sanjay         | <u>Nagbhidkar</u> |

|     |                                   |             |
|-----|-----------------------------------|-------------|
| 57) | Nakhale Mansi Nagesh              | MNakhale    |
| 58) | Nandanwar Saniya Murlidhar        | Nandanwar   |
| 59) | Nikose Vaishnavi Vasanta          | VNikose     |
| 60) | Ninawe Rakhi Sanjay               | Ninawe      |
| 61) | Nipane Darshika Dindayal          | Darshika    |
| 62) | Parmar Eshika Raju                | Parmar      |
| 63) | Pathe Mansi Hanuman               | Mpathe      |
| 64) | Patle Nital Pralhad               | Palkhad     |
| 65) | Patle Vaibhav Sahadeo             | Vpatle      |
| 66) | Patle Vinars Nayaran              | Vpatle      |
| 67) | Pawar Radha Vinod                 | Radha       |
| 68) | Purkam Sanskruti Kishor           | Sanskriti   |
| 69) | Rahangdale Kajal Tulshidas        | KRahangdale |
| 70) | Ramteke Rutuja Shailesh           | Ramteke     |
| 71) | Rathod Aditi Sanjay               | ARathod     |
| 72) | Raut Anushka Pramod               | ARaut       |
| 73) | Raut Khushi Bhalchandra           | KRaut       |
| 74) | Raut Netra Narendra               | NRaut       |
| 75) | Saluja Manmeet Kaur Ranjeet Singh | MSaluja     |
| 76) | Sepurwar Riya Rajendra            | RSepurwar   |
| 77) | Singh Riya Virendra Kumar         | VSingh      |
| 78) | Somkuwar Avantika Ghanshyam       | ASomkuwar   |
| 79) | Thakre Sakshi Sudhir              | SThakre     |
| 80) | Tumsare Ankita Suryabhan          | Tumsare     |
| 81) | Verma Namita Khilawan             | Namita      |
| 82) | Waghmare Aditya Anand             | AWaghmare   |
| 83) | Waghmare Samit Kishor             | SWaghmare   |
| 84) | Wasnik Pradnya Manoj              | PWasnik     |
| 85) | Yakar Shrushti Rajesh             | SYakar      |



S. Sankar

Ms. Sanchani Sankar



**UG Department of Microbiology**  
**Add-On Certificate Course: Medical Microbiology and**  
**Immunology (Session 2023-24)**

**Theory Exam (M.C.Q. Pattern)**

1. Which of the following is a Gram-positive bacterium?
  - A) Escherichia coli
  - B) Staphylococcus aureus
  - C) Salmonella typhi
  - D) Neisseria gonorrhoeae**Answer: B**
2. What is the primary function of T-helper cells?
  - A) Produce antibodies
  - B) Phagocytose pathogens
  - C) Activate B cells and macrophages
  - D) Suppress the immune response**Answer: C**
3. Which pathogen is known for causing tuberculosis?
  - A) Streptococcus pneumoniae
  - B) Mycobacterium tuberculosis
  - C) Clostridium botulinum
  - D) Bacillus anthracis**Answer: B**
4. What is the main function of antibodies?
  - A) Lyse bacterial cells
  - B) Neutralize toxins
  - C) Phagocytose pathogens
  - D) Inhibit viral replication**Answer: B**
5. Which of the following is an example of an opportunistic infection?
  - A) HIV
  - B) Influenza
  - C) Candida albicans
  - D) Measles**Answer: C**
6. What is the role of macrophages in the immune system?
  - A) Produce antibodies
  - B) Present antigens to T cells
  - C) Produce histamine
  - D) Inhibit viral replication**Answer: B**
7. Which viral family does the influenza virus belong to?
  - A) Retroviridae
  - B) Flaviviridae
  - C) Orthomyxoviridae



- D) Coronaviridae

**Answer: C**

8. Which of the following is a fungal pathogen?

- A) Escherichia coli
- B) Plasmodium falciparum
- C) Candida albicans
- D) Staphylococcus aureus

**Answer: C**

9. Which cell type is primarily responsible for the production of antibodies?

- A) Macrophages
- B) T-helper cells
- C) B cells
- D) Natural killer cells

**Answer: C**

10. What does ELISA stand for?

- A) Enzyme-Linked Immunosorbent Assay
- B) Enzyme-Linked Inhibitory Assay
- C) Electrophoretic Immunosorbent Assay
- D) Electrophoretic Inhibitory Assay

**Answer: A**

11. Which of the following is a characteristic of innate immunity?

- A) Memory response
- B) Specificity for particular antigens
- C) Immediate response
- D) Production of antibodies

**Answer: C**

12. Which bacterium is associated with peptic ulcers?

- A) Escherichia coli
- B) Helicobacter pylori
- C) Streptococcus pyogenes
- D) Staphylococcus aureus

**Answer: B**

13. Which type of immunity involves the activation of B cells?

- A) Cell-mediated immunity
- B) Innate immunity
- C) Humoral immunity
- D) Autoimmunity

**Answer: C**

14. What is the function of cytokines in the immune response?

- A) Directly kill pathogens
- B) Serve as signaling molecules
- C) Phagocytose pathogens
- D) Produce antibodies

**Answer: B**

15. Which of the following pathogens causes malaria?

- A) Plasmodium spp.
- B) Trypanosoma spp.
- C) Leishmania spp.

- D) Hepatitis B

**Answer: B**

24. Which assay is commonly used to measure the concentration of specific antibodies in a sample?

- A) PCR
- B) ELISA
- C) Western blot
- D) Flow cytometry

**Answer: B**

25. Which type of immunity is provided by vaccination?

- A) Passive immunity
- B) Innate immunity
- C) Active immunity
- D) Natural immunity

**Answer: C**



*S. Sanchari*

**Ms. Sanchari Sarkar**

Course- Coordinator

Add on Course

**UG Department of Microbiology**  
**Add-On Certificate Course: Medical Microbiology and**  
**Immunology (Session 2023-24)**

**Practical Exam Question Paper:**

**Subject** : Medical Microbiology and Immunology  
**Center** : S.S.E.S.A's Science College, Nagpur  
**Time** : 5 hrs per day  
**Dates** : 13/10/2023

**Max. Marks: 40**

|  |    |
|--|----|
| Q.1. Culturing and identifying bacterial pathogens | 10 |
| Q.2. Immunological assay for detecting antibodies  | 10 |
| Q.3. Viva-Voce                                     | 10 |
| Q.4. Practical Record                              | 10 |

**Total Marks 40**



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**UG Department of Microbiology**  
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**Immunology (Session 2023-24)**  
**OMR Answer Sheet**



Shri Shivaji Education Society, Amravati's  
**SCIENCE COLLEGE**  
 Congress Nagar, Nagpur-12 (M.S.), India



Accredited with CGPA of 3.51 at 'A+' grade by NAAC, Bangalore  
 A "College with Potential for Excellence" identified by UGC, New Delhi  
 Institutional Member of APQV  
 Recognized Centre for Higher Learning and Research  
 Mentor College under 'PARAMARSHI Scheme', UGC, New Delhi

**U.G. DEPARTMENT OF MICROBIOLOGY**

| <b>Add-on Course</b>   |  |  |  |
|--|--|--|--|
| <b>Course Exam Name: Medical Microbiology and Immunology</b>                         |  |  |  |
| <b>Name of Student:</b> <u>Tshu Ambulkar</u>   |  |  |  |
| <b>Roll No.:</b> <span style="border: 1px solid black; padding: 2px 10px;">  </span> |  | <b>Session:</b> 2023-24  |  |
| <b>Test Date:</b> 11/10/2023   |  | <b>Max. Marks:</b> 50  |  |
| <b>Invigilator Signature:</b> <u>L. Sarkar</u>                                       |  | <b>Obtained Marks:</b> <span style="border: 1px solid black; padding: 2px 10px;">50</span> |  |

**INSTRUCTIONS FOR FILLING THE SHEET**

1. This sheet should be filled in blue/black ink.
2. Use only blue/black ink. Do not use any other color.
3. Use of pencil is strictly prohibited.
4. Circles should be completed completely and properly.
5. Drawing and shading on this sheet is not allowed.
6. Do not use any stray marks on the sheet.
7. Do not use marker or white-out to change the mark.

**WRONG METHODS**      **CORRECT METHOD**

| A B C D |                       |                       |                       | A B C D               |    |                       |                       | A B C D               |                       |    |                       | A B C D               |                       |                       |    | A B C D               |                       |                       |                       |    |                       |                       |                       |                       |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|
| 1       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 11 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 21 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 31 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 41 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 12 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 22 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 32 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 42 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 13 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 23 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 33 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 43 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 14 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 24 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 34 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 44 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 15 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 25 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 35 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 45 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 16 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 26 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 36 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 46 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 17 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 27 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 37 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 47 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 18 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 28 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 38 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 48 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 19 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 29 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 39 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 49 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 20 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 30 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 40 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 50 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**UG Department of Microbiology**  
**Mark List: Add on Course- Medical Microbiology and Immunology**  
**(Session 2023-2024)**

| Sr. No. | Name of Student                          | Marks obtained out of 50 (Theory) | Marks obtained out of 40 (Practical) | Marks obtained out of 10 (Internal) | Total Marks 100 | Grade |
|---------|--|-----------------------------------|--------------------------------------|-------------------------------------|-----------------|-------|
| 1)      | Ambulkar Isha<br>Pradnyanand             | 50                                | 38                                   | 10                                  | 98              | O     |
| 2)      | Anmadwar Khushi<br>Rajendra              | 48                                | 36                                   | 10                                  | 94              | O     |
| 3)      | Bahadure Vanshita<br>Dharmapal           | 50                                | 38                                   | 10                                  | 98              | O     |
| 4)      | Bhagwat Ketki Aviraj                     | 48                                | 36                                   | 10                                  | 94              | O     |
| 5)      | Bhalkar Gauri Abhijit                    | 42                                | 35                                   | 10                                  | 87              | A+    |
| 6)      | Binekar Mansi Sevak                      | 42                                | 34                                   | 10                                  | 86              | A+    |
| 7)      | Bisen Riya Deliram                       | 48                                | 36                                   | 10                                  | 94              | O     |
| 8)      | Borkar Mansvi Ravi                       | 42                                | 35                                   | 10                                  | 87              | A+    |
| 9)      | Borkar Nandini<br>Ramkrushna             | 50                                | 38                                   | 10                                  | 98              | O     |
| 10)     | Borkar Shreyasha Dinesh                  | 50                                | 34                                   | 10                                  | 94              | O     |
| 11)     | Buddhalwar Siddhi<br>Vyankatesh          | 48                                | 35                                   | 10                                  | 93              | O     |
| 12)     | Budhe Vinay Rajendra                     | 42                                | 34                                   | 10                                  | 86              | A+    |
| 13)     | Chauhan Shantanusingh<br>Shailendrasingh | 48                                | 36                                   | 10                                  | 94              | O     |

|     |                               |    |    |    |    |    |
|-----|-------------------------------|----|----|----|----|----|
| 14) | Choudhari Shravani<br>Ramesh  | 50 | 34 | 10 | 94 | 0  |
| 15) | Dahat Surbhi Yograj           | 48 | 35 | 10 | 93 | 0  |
| 16) | Daheriya Jaysika<br>Ramkishan | 42 | 34 | 10 | 86 | A+ |
| 17) | Dahikar Sarwani Atul          | 48 | 36 | 10 | 94 | 0  |
| 18) | Das Chetana Shaktiprasad      | 42 | 35 | 10 | 87 | A+ |
| 19) | Datarkar Nayan<br>Prakashrao  | 50 | 38 | 10 | 98 | 0  |
| 20) | Dhote Shrishti Ravindra       | 50 | 34 | 10 | 94 | 0  |
| 21) | Doye Pranali Shrikrushna      | 42 | 34 | 10 | 86 | A+ |
| 22) | Fiske Vedanti Jagdish         | 50 | 38 | 10 | 98 | 0  |
| 23) | Fulzele Tannu Shailesh        | 48 | 36 | 10 | 94 | 0  |
| 24) | Garode Gargi Shailesh         | 50 | 38 | 10 | 98 | 0  |
| 25) | Ghangare Priyanka<br>Liladhar | 48 | 36 | 10 | 94 | 0  |
| 26) | Gholse Leena Bhojraj          | 42 | 35 | 10 | 87 | A+ |
| 27) | Giri Yash Dilip               | 41 | 35 | 10 | 86 | A+ |
| 28) | Godse Siddhi Madhav           | 50 | 38 | 10 | 98 | 0  |
| 29) | Gotmare Parikshit Deepak      | 50 | 34 | 10 | 94 | 0  |
| 30) | Gurnule Madhavi Dhanraj       | 42 | 35 | 10 | 87 | A+ |



|     |                               |    |    |    |    |    |
|-----|-------------------------------|----|----|----|----|----|
| 31) | Gurve Aditi Ramkrushna        | 50 | 38 | 10 | 98 | O  |
| 32) | Hadke Tejasvi Nitin           | 50 | 34 | 10 | 94 | O  |
| 33) | Jain Shruti Ravikumar         | 42 | 34 | 10 | 86 | A+ |
| 34) | Jenekar Shreya Narendra       | 50 | 38 | 10 | 98 | O  |
| 35) | Kadu Kartik Vivek             | 48 | 36 | 10 | 94 | O  |
| 36) | Kale Vaidehi Girish           | 50 | 38 | 10 | 98 | O  |
| 37) | Kamane Saurabh Jagdish        | 48 | 36 | 10 | 94 | O  |
| 38) | Kamble Shatakshi Vijay        | 42 | 35 | 10 | 87 | A+ |
| 39) | Khadse Isha Eshwar            | 50 | 34 | 10 | 94 | O  |
| 40) | Khaparde Sourabhi<br>Rajendra | 48 | 35 | 10 | 93 | O  |
| 41) | Khedule Tashu Vipul           | 42 | 34 | 10 | 86 | A+ |
| 42) | Khobragade Bhavesh<br>Subhash | 48 | 36 | 10 | 94 | O  |
| 43) | Khorgade Shiwani<br>Vasantrao | 42 | 34 | 10 | 86 | A+ |
| 44) | Kohad Purva Sanjay            | 42 | 35 | 10 | 87 | A+ |
| 45) | Kolhe Yashaswi Pravin         | 50 | 38 | 10 | 98 | O  |
| 46) | Kudkelwar Janhvi Ravi         | 50 | 34 | 10 | 94 | O  |
| 47) | Lande Sonali Rajendra         | 50 | 38 | 10 | 98 | O  |

|     |                                    |    |    |    |    |    |
|-----|------------------------------------|----|----|----|----|----|
| 48) | Lohakare Shravni Kawadu            | 48 | 36 | 10 | 94 | 0  |
| 49) | Madavi Maithili<br>Prabhakar       | 50 | 38 | 10 | 98 | 0  |
| 50) | Mahant Abhilasha<br>Chandrashekhar | 48 | 36 | 10 | 94 | 0  |
| 51) | Manwatkar Mahi Pramod              | 42 | 35 | 10 | 87 | A+ |
| 52) | Masram Prajwal Prakash             | 50 | 34 | 10 | 94 | 0  |
| 53) | Masram Samrudhi<br>Subhash         | 48 | 35 | 10 | 93 | 0  |
| 54) | Meshram Hemant Vikas               | 42 | 34 | 10 | 86 | A+ |
| 55) | Meshram Shrivin Navin              | 48 | 36 | 10 | 94 | 0  |
| 56) | Nagbhidkar Astha Sanjay            | 50 | 37 | 10 | 97 | 0  |
| 57) | Nakhale Mansi Nagesh               | 48 | 38 | 10 | 96 | 0  |
| 58) | Nandanwar Saniya<br>Murlidhar      | 50 | 38 | 10 | 98 | 0  |
| 59) | Nikose Vaishnavi Vasanta           | 48 | 36 | 10 | 94 | 0  |
| 60) | Ninawe Rakhi Sanjay                | 50 | 38 | 10 | 98 | 0  |
| 61) | Nipane Darshika Dindyal            | 48 | 36 | 10 | 94 | 0  |
| 62) | Parmar Eshika Raju                 | 42 | 35 | 10 | 87 | A+ |
| 63) | Pathe Mansi Hanuman                | 42 | 35 | 10 | 87 | A+ |
| 64) | Patle Nital Pralhad                | 50 | 38 | 10 | 98 | 0  |

|     |                                      |    |    |    |    |    |
|-----|--------------------------------------|----|----|----|----|----|
| 65) | Patle Vaibhav Sahadeo                | 50 | 34 | 10 | 94 | 0  |
| 66) | Patle Vinars Nayaran                 | 42 | 34 | 10 | 86 | A+ |
| 67) | Pawar Radha Vinod                    | 49 | 38 | 10 | 97 | 0  |
| 68) | Purkam Sanskruti Kishor              | 50 | 35 | 10 | 95 | 0  |
| 69) | Rahangdale Kajal<br>Tulshidas        | 50 | 38 | 10 | 98 | 0  |
| 70) | Ramteke Rutuja Shailesh              | 48 | 36 | 10 | 94 | 0  |
| 71) | Rathod Aditi Sanjay                  | 50 | 38 | 10 | 98 | 0  |
| 72) | Raut Anushka Pramod                  | 48 | 36 | 10 | 94 | 0  |
| 73) | Raut Khushi Bhalchandra              | 42 | 35 | 10 | 87 | A+ |
| 74) | Raut Netra Narendra                  | 50 | 34 | 10 | 94 | 0  |
| 75) | Saluja Manmeet Kaur<br>Ranjeet Singh | 48 | 35 | 10 | 93 | 0  |
| 76) | Sepurwar Riya Rajendra               | 42 | 34 | 10 | 86 | A+ |
| 77) | Singh Riya Virendra<br>Kumar         | 48 | 36 | 10 | 94 | 0  |
| 78) | Somkuwar Avantika<br>Ghanshyam       | 42 | 34 | 10 | 86 | A+ |
| 79) | Thakre Sakshi Sudhir                 | 42 | 34 | 10 | 86 | A+ |
| 80) | Tumsare Ankita<br>Suryabhan          | 47 | 38 | 10 | 95 | 0  |
| 81) | Verma Namita Khilawan                | 50 | 38 | 10 | 98 | 0  |



|     |                                      |    |    |    |    |    |
|-----|--------------------------------------|----|----|----|----|----|
| 65) | Patle Vaibhav Sahadeo                | 50 | 34 | 10 | 94 | 0  |
| 66) | Patle Vinars Nayaran                 | 42 | 34 | 10 | 86 | A+ |
| 67) | Pawar Radha Vinod                    | 49 | 38 | 10 | 97 | 0  |
| 68) | Purkam Sanskruti Kishor              | 50 | 35 | 10 | 95 | 0  |
| 69) | Rahangdale Kajal<br>Tulshidas        | 50 | 38 | 10 | 98 | 0  |
| 70) | Ramteke Rutuja Shailesh              | 48 | 36 | 10 | 94 | 0  |
| 71) | Rathod Aditi Sanjay                  | 50 | 38 | 10 | 98 | 0  |
| 72) | Raut Anushka Pramod                  | 48 | 36 | 10 | 94 | 0  |
| 73) | Raut Khushi Bhalchandra              | 42 | 35 | 10 | 87 | A+ |
| 74) | Raut Netra Narendra                  | 50 | 34 | 10 | 94 | 0  |
| 75) | Saluja Manmeet Kaur<br>Ranjeet Singh | 48 | 35 | 10 | 93 | 0  |
| 76) | Sepurwar Riya Rajendra               | 42 | 34 | 10 | 86 | A+ |
| 77) | Singh Riya Virendra<br>Kumar         | 48 | 36 | 10 | 94 | 0  |
| 78) | Somkuwar Avantika<br>Ghanshyam       | 42 | 34 | 10 | 86 | A+ |
| 79) | Thakre Sakshi Sudhir                 | 42 | 34 | 10 | 86 | A+ |
| 80) | Tumsare Ankita<br>Suryabhan          | 47 | 38 | 10 | 95 | 0  |
| 81) | Verma Namita Khilawan                | 50 | 38 | 10 | 98 | 0  |

|     |                       |    |    |    |    |    |
|-----|-----------------------|----|----|----|----|----|
| 82) | Waghmare Aditya Anand | 48 | 36 | 10 | 94 | 0  |
| 83) | Waghmare Samit Kishor | 50 | 38 | 10 | 98 | 0  |
| 84) | Wasnik Pradnya Manoj  | 48 | 36 | 10 | 94 | 0  |
| 85) | Yakar Shrushti Rajesh | 42 | 35 | 10 | 87 | A+ |



*S. Sarkar*

**Ms. Sanchari Sarkar**  
Course- Coordinator  
Add on Course



Shri Shivaji Education Society Amravati's  
**SCIENCE COLLEGE, CONGRESS NAGAR,  
NAGPUR**



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A College with Potential for Excellence

## CERTIFICATE

Mr./Ku. Ambulkar Isha Pradyuman is awarded with certificate on successful completion of the course entitled, Certificate course in "Medical Microbiology and Immunology" Session 2023-24 under Add-on course conducted for 30 hours from 01/08/2023 to 07/10/2023 by Department of Microbiology, SSES's, Science College, congress Nagar, Nagpur 440012.

He/She has passed the Examination with 'O' Grade.

S. Sanchari

**Ms. Sanchari Sarkar**

Coordinator, Department of Microbiology



M. P. Dhore

**Prof. M. P. Dhore**

Principal, Science College, Nagpur