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

UG Department of Biotechnology Skill Based Course: Immunology and Immunodiagnostics Session 2023-24 Course Coordinator Report

A Skill Based Course for UG students in the Department Biotechnology, Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur was held from 18th March 2024 to 12th July 2024. The course title was "Immunology and Immunodiagnostics". It is the complete beginner to Expert Course was perfect for anyone who wants to learn Immunology.

The skill base certificate course syllabus for B.Sc. I, II and III appear students. Fifteen weeks' certificate course in IMMUNOLOGY AND IMMUNODIAGNOSTICS. A total of 75 students were enrolled to the course. The examination of course shall comprise of one theory paper of three hours carries 50 marks and practical of one-hour duration carries 40 marks. Internal assessment for the course based on one theory paper of 10 marks shall be conducted by university approved teachers. Internal assessment marks should be included in minimum passing marks of the students. Candidates are expected to pass separately in theory, internal assessment and practical examination.

Students require 40 % marks in theory for passing including internal marks. Separate passing in practical examination is required, assignment submission is necessary to get internal marks.

Action Taken- In an Immunology and Immunodiagnostics course, students explore the intricate structure and function of the immune system, gaining a deep understanding of immune responses and the mechanisms underlying immune-related diseases. The curriculum emphasizes hands-on skills in applying diagnostic techniques to identify and analyze various conditions in clinical settings. Students learn to develop and utilize advanced immunological assays and tests for accurate disease detection and monitoring.

The course also covers cutting-edge advancements in immunotherapy and vaccine development, preparing students to tackle contemporary challenges in healthcare and research. By integrating theoretical knowledge with practical experience, students are equipped to take on leadership roles in the fields of immunology, diagnostics, and therapeutic innovation.





Immunology & Immunodiagnostics Kit based Hands on Training (2023-2024)









Immunology and Immunodiagnostics Exam on 16/07/2024

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Biotechnology

Skill Based Course: Immunology and Immunodiagnostics **Session 2023-24**







RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

(Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August 1923 & presently a State Universities governed by Melsanshira Universities DEPARTMENT OF LIFELONG LEARNING AND EXTENSION Guru Nanak Bhavan, University Campus, Ambazari Bypass Road, Nagpur - 440033 Phone: 2530860

Dr. Nishikant Raut, (Director)

Mob. No. 9422803768 No.DOLLE/464/23

Dated: 26. 10. 2023

The Principal SSES Amravati's Science College, Congress Nagar,

Nagpur.

Sanction for Conducting Short Term Courses under Jeevan Shikshan Subject:

Abhiyan on No Grant Basis. (2023-24)

With reference to your proposal for conducting Short Term courses indicated below under Jeevan Shikshan Abhiyan of this Department, this is to inform you that your proposal has been accepted and your College has been granted permission to conduct the course on the following conditions:

Sr. No.	Name of the Course	Name of Course Coordinator	Duration	Credit	No.of Candidates to be admitted	Fees to be Charged per Student	Fees to be Deposited With the Deptt.
1.	Certificate Course in Biofertilizer and Biopesticide Production.	Dr. Pranita.B. Gulhane.	45 hrs. T-37 hrs. P-08 hrs.	2	80	500/-	10%
2.	Certificate Course in Ground Water Exploration.	Dr. P .B . Zamarkar.	45 hrs. T-36 hrs. P-09 hrs.	2	100	500/-	10%
3.	Certificate Course in Mushroom Cultivation.	Dr. Rupali . H. Mahakhode.	40 hrs. T-20 hrs. P-20 hrs.	2	80	500/-	10%
4. h [‡]	Certificate Course in Fruit Processing and Wine Technology.	Dr. Pranita B. Gulhane.	45 hrs. T-37 hrs. P-8 hrs.	2	80	500/-	10%
5.	Certificate Course in Environment and water Management.	Dr. Priyadashani N . Deshmukh.	45 hrs. T-30 hrs. P-15 hrs.	2	150	500/-	10%
6. 36	Certificate Course in Immunology and Immunodiagnostics .	Dr. Sapna. Baghel .	44 hrs. T-36 hrs. P-08 hrs.	2	80	should be	10%

Rules & Regulations of this Department regarding these courses should be strictly followed.

This sanction is valid for this particular Batch only.

Fees for the course should be charged as per the norms prescribed.

Expenditure on the course should be incurred as per norms.

3. 4.

Expenditure on the course should be incurred as per norms.

Course should be started within a Month from the date of sanction.

Please communicate your acceptance within a month and submit the Initial Report

Submit the List of Students admitted in the excel format attached herewith.

Geotagged Photographs clicked during theory and practical classes have to be submitted along with the final report. Other than geotagged photographs will not be 5.

accepted. Complete details and evidences (along with geotagged photographs) for theory & pratical exam / assessment will have to be submitted. Guidelines for allottment of grades should be strictly followed. 8. After Completion of the course the dates for assessment /exam should be informed

Department at teast 10 days in advance.

Your's faithfully, @101-010 20110123 Director

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

UG Department of Biotechnology

NOTICE

Date: 04/03/2024

All the Students of B.Sc.-Part I, II and III of BIOTECHNOLOGY are hereby informed that Department of Biotechnology is conducting 15 **IMMUNOLOGY** & weeks Certificate course in **IMMUNO-**DIAGNOSTICS under RTMNU Skill Based Program. The fee for Certificate course will be **Rs 500/- (Five Hundred Rupees Only)**. For further enquiry and form collection contact Dr. Sapna Baghel in Department of Biotechnology. Interested students can take admission on before 11/03/2024. Your registration will be confirmed upon receipt of payment, on a first-come-first serve basis. The registration will end when all 80 seats are filled.









U.G. DEPARTMENT OF BIOTECHNOLOGY, SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

AccreditedwithCGPAof3.51 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

Skill Based Course for the Session 2023-24

on

Immunology and Immunodiagnostics

Skill Based Certificate Course: Immunology and Immunodiagnostics

Course Co-ordinator: Dr. Sapna Baghel

Course Introduction

This course covers the fundamentals of immunology, including the structure and function of the immune system. It explores various immunological diseases and the latest diagnostic techniques for identifying them. Key topics include antigenantibody interactions, diagnostic tools such as ELISA, serological tests, rapid plasma regain tests, and tests for rheumatoid arthritis. The course integrates theoretical knowledge with practical applications, focusing on interpreting immunological data in clinical contexts. Participants will gain a solid foundation in immunology and develop skills for effective use of diagnostic tools. Additionally, the course addresses emerging trends and advancements in immunodiagnostics, preparing students for current and future challenges in the field. Hands-on laboratory sessions will enhance practical skills and deepen understanding of complex concepts.

Course Objectives

- The primary objective of this course is to help students develop the skills necessary for the critical analysis of topics related to health and disease.
- To provide an up to date knowledge of basic and technical immunology.
- An understanding of the characteristics of antigens and antibodies.
- An understanding of the nature of antigen-antibody reactions.
- To understand how the immune system develops, how the body defends itself against disease and what happens when it all goes wrong.
- To provide simple and accurate methods of making a laboratory diagnosis of infectious diseases and immunodeficiency.

Registration Date: 11/03/2024

Prof. Atul Bobdey *Coordinator*Dept. of Biotechnology

Prof. Mahendra Dhore *Principal Science College, Nagpur*

Skill Based Course: Immunology and Immunodiagnostics **Session 2023-24**

Course Co-ordinator: Dr. Sapna Baghel

Course Introduction

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Course Objectives

- 1) The primary objective of this course is to help students develop the skills necessary for the critical analysis of topics related to health and disease.
- 2) To provide an up to date knowledge of basic and technical immunology.
- 3) An understanding of the characteristics of antigens and antibodies.
- 4) An understanding of the nature of antigen-antibody reactions.
- 5) To understand how the immune system develops, how the body defends itself against disease and what happens when it all goes wrong.
- 6) To provide simple and accurate methods of making a laboratory diagnosis of infectious diseases and immunodeficiency.

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

Evaluation Strategies: Oral discussions, Final MCQ and Practical examination

Course Outcomes: By the end of this course, participants will be able to:

- 1. Understand Immune System Basics: Grasp the structure and function of the immune system.
- 2. **Diagnose Diseases:** Use diagnostic tools to identify and analyze immune-related disorders.
- 3. **Interpret Data:** Analyze and interpret immunological data in clinical and research settings.
- 4. Apply Techniques: Effectively utilize both traditional and advanced immunodiagnostic methods.
- 5. **Gain Practical Experience:** Enhance hands-on skills through laboratory sessions and stay updated on emerging SBagful

Duration of course: Fifteen weeks

Skill Based Course: Immunology and Immunodiagnostics

Session 2023-24

Module: The Structure of Syllabus and system of evaluation

The structure of syllabus for certificate course along with distribution of marks is displayed in the following table.

Course	Theory papers and Practicals		Marks		Total marks
		Theory	Internal assessment	Practical	
Certificate course in	1. Theory paper – Immunology and	50	10		
Immunology and Immunodiagnostics	Immunodiagnostics 2. Practical based on course			40	100
			Grand total		100

^{*}Internal assessment –Based on student's attendance and performance during unit test exam and assignment.

Based on assignment plus activity conducted on kit based practical, the Internal Assessment marks are given for theory and practical. Objective mode of examination was conducted.

Dr. Sapna Baghel

Skill Based Course Coordinator

Dr. Amitabh Halder

IQAC Coordinator
Internal Quality Assurance Cell

S. S. E. S. A. Science College Science College, Nagpur. Congress Nagar, Nagpur.

Prof. Mahendra Dhore

Principal
Principal
S. S. E. S. Amravati's
Sience College, Nagpur

Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

Syllabus of Skill Based Course: Immunology and Immunodiagnostics

Course Units

Unit 1: Medical Microbiology

Bacteria -Morphology, Type of microbial Culture, Staining, Pathogenicity, Lab Diagnosis, Treatment of the following Micro-organisms.

- Spirochetes
- Salmonella
- Retro Virus (HIV)

Unit 2: Bacterial Growth

Bacterial Growth Media required, Types of Culture Media, Principle and Preparation Procedure of Culture Media, Bacterial Growth Curve.

Unit 3: Immunology

Antigen, Antibody, Immune system, Organs and cells of immune system, Immunity, Innate immunity, Acquired Immunity Humoral Immunity, Cell Mediated Immunity, Disorders of Immune System.

Unit 3: Immunological Techniques

Antigen-Antibody reactions, precipitation, agglutination, complement fixation, Rheumatoid arthritis Test (RA), Immunological Test for pregnancy, Serological Test for Syphilis, Immunological Test for ELISA.

Practicals: Medical Microbiology & Immunology

- 1. Antigen-Antibody reaction for detection of blood group (ABO System).
- 2. To determine Rh factor in blood.
- 3. To perform Pregnancy Test.
- 4. To Perform Widal Test (Slide Test).
- 5. To Perform VDRL Test.
- 6. To perform ELISA Test
- 7. To Perform HIV-I (Rapid Tri-dot Method).
- 8. To Perform RPR Test.
- 9. To Perform RA Test.
- 10. To Perform Latex Agglutination Test.



Dr. Sapna BaghelCourse- Coordinator

Skill Based Course

UG Department of Biotechnology Skill Based Course: Immunology and Immunodiagnostics (Session 2022-23)

Week-wise teaching plan:

Weeks	Hrs.	Content
		Theory
1	1	Bacteria - Morphology
	1	Staining
	1	Bacteria -Culture,
2	1	Growth curve
	1	Types of Culture
	1	Growth media
3	1	Bacteria - Pathogenicity
	1	Bacteria- Reproduction
	1	Bacteria - Lab Diagnosis
4	1	Treatment of the Micro-organism
		Spirochetes
	1	Salmonella
	1	Retro Virus
5	1	Immune system
	1	Disorders of immune system
	1	Organs
6	1	Cells of immune system
	1	Primary lymphoid organ
	1	Secondary lymphoid organ
7	1	Immunity
	1	Defense barriers of Immune system
	1	Innate immunity
8	1	Acquired Immunity
	1	Humoral or Antibody mediated Immunity
	1	Cell mediated Immunity
9	1	Antigen
	1	Antibody
	1	Antigen-Antibody reactions
10	1	Erythroblastosis-fetalis
	1	Precipitation
	1	Types of precipitation
11	1	Agglutination
	1	Complement fixation
	1	Serological Test for Syphilis
12	1	Immunological Test for pregnancy
	1	Rheumatoid arthritis Test (RA)

	1	Immunological Test for ELISA
13	1	Types of ELISA
	1	Practical
14	1	Antigen-Antibody reaction for detection of blood group
	1	To determine Rh factor in blood
	1	To perform pregnancy test
15	1	To perform Widal test
	1	To perform RPR test
	1	To perform RA test
	1	To perform Latex agglutination test
	1	To perform ELISA test



Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

Skill Based Course: Immunology and Immunodiagnostics

w.e.f. 18/03/2024

Time Table

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Days	-	1	2	3	4	5	6		8	9	10
•	Class	07:30-	08:18-	09:06-	10:00-	10.48-	11:36-	12:44-	01:32-	02:20-	03:12-5:36
		08:18	09:06	09:54	10:48	11:36	12:24	01:32	02:20	03:08	
					BT-C5						IDCC
	I				PT						Theory Biotec
Monday											Lab
&	II								BT-C6		SB
Tuesday									MB		
·											
	III					BT-B3			BT B5		
						SB			PT		
			Ι				BT-C7		BT B6		IDCC Theory
	I						SB(Wed)		MB		Biotech Lab S
Wednesday	•						PT(Thur)		1.112		Broteen Edb Br
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							PT		MB		Biotech Lab S
Friday											
&	II					BT B6				BT-C5	
Saturday						SB				SB	
	III		- BT B6			BT-B2					
			PT			MB					

Teaching Faculty: MB- Mayuri Bhad, SB- Dr. Sapna Baghel, PT- Payal Talekar



Shagful

ATTENDENCE SHEET (2023-24)

S.S.E.S.A's Science College, Congress Nagar, Nagpur

Skill Course Immunology and Immunodiagnostics

Class: Immunology and Immunodiagnostics

Theory/ Practical:

Month: MAR+ APR+MAY+JUNE+JULY
Name of Lecturer: Dr. Sapra Baghel

Sr. No	Name of Student	18-03-24	19.03.24	20.03.24	46.03.24	47.63.2y	01.04.24	02.04.24	03.0424	18.04 <i>3</i> 4	15.04.24	16.04.24	22.04.24	23.04.24	24. ag.24	29.04.24	30.8424			07.0529	08.05.24	13.05.2	2000	18.06.24	78		8	22.67.26	90	69.07.24	5	
1.	Aditi Ramkrishnaji Gurve	P	A	P	P	A	P	A	P	P	P	P	A	P	P	P	P	A	P	A	P	A	PA	P	A	+	- 1	-	P	P	-	-
2.	Aditya Anand Waghmare	P	P	P	A	ρ	A	ρ	0	P	P	P	A	P	P	A	P	P	P	P	A	Pf	P	B	P	A	_		P	P	P	
3.	Akansha Vijay Tekade	P	P	P	A	P	P	A	Ρ	A	P	P	P	A	A	P	P	A	P	P	A	PF	F	A	F	1	9 8	A	P	P	A	
4.	Anisha Arvind Shende	P	A	A	P	A	P	P	A	P	A	P	A	P	A	•	A	A	P	A	P	A	A f	A	f	1	f	12	P	A		
5.	Anobha Narendra Madre	A	P	A	A	P	P	A	P	A	A	P	₽	A	P	A	P	A	P.	P	A	A	P	- 1	PA	f	P		41	P		_
6.	Anuradha Purushottam Khope	P	A	P	P	A	P	P	A	P	P	A	A	P	A	Ρ	A	P	7	P	A	P	7	PA	- 1	P	7 1	PF	+ f	A	-	4
7.	Anushka Vikram Wagh	P	À	P	A	P	P	ρ	A	P	ρ	P	A	P	P	P	A	A	A	Ρ	P	P	P	> 6	7 1	P	2	1	7 4	P	1 '	_
8.	Arshiya Shaikh Mushtaque	A	ρ	A	P	A	A	P	P	A	P	A	P	A	P	P	A	P	P	A	A	PI	2 1	P	P	P	4 1	9 6	9 8	P 6	PF	,
9.	Aryan Shripad Joshi	P	A	P	P	A	P	P	Ρ	A	A	P	4	P	A	P	A	٩	A	A	٩	AI	9 1	2 1	A	f	P	1	P	f	C P)	
10.	Ashwini Yuvraj Sidam	P	A	A	P	A	A	A	A	P	A	A	P	A	P	A	P	A	A	ρ	A	Pf	f	P	+ 1	P	1	P	P	A	P	
11.	Astha Sanjay Nagbhidkar	ρ	P	A	A	P	A	P	A	٩	A	P	A	A	A	P	A	P	P	A	P	A	e le	f	S	F	1	>	- F	P) f	>
12.	Ayushi Rupesh Sirsath	A	P	P	A	A	P	A	P	A	P	A	P	A	P	A	P	P	P	A	P	P	Af	P	- 1	4	PA	- 6	F	F) 1	<u>.</u>
13.	Chetana Shaktiprasad Das	A	P	A	P	P	A	P	A	ρ	P	P	A	P	P	P	A	P	A	P	A	A	S A	F	1	2	7	P	A 1	A	F)
14.	Durgesh Gokul Pandey	P	A	P	A	A	P	A	P	À	P	P	A	P	P	A	A	P	A	ρ	A	P	PF	+ 6	2	P	P	P	P	2	P	+
15.	Eshika Raju Parmar		P	P	A	P	A	P	A	P		6	P	A	P	P	P	A	P	A	P	A	A f	9 6) P	- 1	ρ	A	7 6	P) f	2
16.	Gargi Shailesh Garode	P	A	P	P	A	P	A	P	A	A	P	A	P	A	A	A	P	A	A	A	P	A	A	P	4	A	<mark>ک</mark> ا	7 1	7	P	+

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7.	Gayatri Ravi Bhise	P	A	P	A	P	A	P	ρ	P	A	P	P	P	A	P	A	P	PF	P	A	P	P	P	4	P	P	$ oldsymbol{ ho} $	A	P	
.8.	Harshal Dilip Upadhye	A	P	A	P	A	P	A	P		A	P	A	A	A	P	A	A 6	2 6	AA	P	A	A	P	P	A	A	A	P	A	Ţ
9.	Humera Afroz	P	1	P	P		P	A		ρ	P	P			P	ρ	ρ	PI	7 6	ρ	P	A	ρ	P	ρ	P	P	A	P	-	1
20.	Ishika Amarnath Pandey	ρ	P	P	ρ	ρ	P	P	, 18		p	8	P	**	A		P	P		<u> </u>	-	-		P	-					A	t
21.	Ishita Yogesh Padgil	ρ	A	A	ρ	A	A	P	Ð	A	ρ	A	A	P	A	A	P		AF	-	+	-	A	P	ρ	ρ				•	1
22.	Ishwari Nandkishor Gawande	ρ	P	P	A	A	B	A	9	A	P	A	P	ρ	P	P	- 1	PF	-	_	-	17	ρ	-	P	P	-	A		P	_
23.	Jahanvi Suresh Kumar Tale	P	A	A	ρ			A	P	A	A	A	A	P	A	_		• 1	PF	_	+-	1			A				•	P	+
24.	Janhvi Ravi Kudkelwar	13	ρ	A	P	P	A	P	P	A	P	A	P		P	P		PF		-	-	P		ρ	AF	_	_		_	A	
25.	Jiya Ashok Yadav	P	A	A	A	A	B	A	P	P	A	A	A	A	A	ρ	_		-	PP	+-	1	P	P	-	_	-	-	<u>'</u>	P	
26.	Kajal Tulshidas Rahangdale	A	ρ	P	P	A	ρ	P	P	A	Ð	ρ	P	A	P	ρ	-		PF	> A	P	P	P	A		P	_		_	P	_ i
27.	Kalyani Girish Rajpurohit	ρ	A	P	A	P		P	A	P	P	ρ	P	P	A	A	-	-	PF	<u> </u>	2 lf	P	+	P	A	A	P	-	_	P	⊢
28.	Ketaki Prakash Chaudhari	A	P	+	_	A	1/	<u> </u>	P	A	A	P	P	A	P	A	-	,	<u> </u>	-+-	7 8	÷	+ • +	A	P	P	•		PF	A	+
29.	Khushi Bhumiraj Rahate	P	A	-	A	ρ	+-	A	P	A	A	P	A	P	A	P	-	-	- -	AI	A F	+	A	ρ	A	A	ρ	1	P	P	1
30.	Khushi Rajendra Anmadwar	A	P	+	P	A	P	P	A	P	P	A	P	P	+	A	P	P	A	PI	PA	HA		· ·	P		A	P		A	1
31.	Leena Narendra Meher	P	A	P		P	<u> </u>	P	A	P	A	A	P	n	A	P	A	A	•		PF				A	P	ρ	A	A	A	Ī
32.	Mahi Pramod Manwatkar	A		B		A	P	A	P	P	A	P	B	A	P	A	P	A	-	A		PA	1	A	1	A	P	-	ρ	A	
33.	Manmeet Kaur Ranjeet Singh Saluja	P	+	A	P	ρ	A	ρ	A	n	P	_	A	P	A	P	A	+ +	_	•	A F	-	11/	P	-	P	+	P	P	A	1
34.	Mansi Hanuman Pathe	A	A	P	A	A	P	A	A	P		+		_	-	+	P	+	-	-	PP	+	+	-	+	P	A	P	P	P	,
35.	Mayur Yogeshwar Kadamdhad	P	-	P		P	A	P	A	A	→		P	+•	<u> </u>	·	P	P	A	ρ	AF	-	·	-	_	+	P	A	A	P	_
36.	Mohini Vinod Raut	A	P	A	<u> </u>	_		+-		P	+-		-	P	_	-	A	-	P	•	-	A A	-	+	P	+	A	Ω	A	A	-
37.	Mrunali Moreshwar Waghmare	A	-	P	_	A		A	-	A	+ -				P	<u> </u>	P	A	-	ρ	<u>_</u>	PA		-	-	+	PA	A	P	A	_
38.	Nandini Arvind Wadaskar	17	P	_		P	_	P		A	A	1	A				A	A	-	-	PF		-	-	, A	A	-	+	A	A	_
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40.	Nital Pralhad Patle	P	A	P	A	P	A	A	P	P	ρ	A	P	P	A	P	A	P	A	P	P	P	P	7	P	P	A	F	P	P	P
41.	Nitesh Siddharth Wakde	A	P	A	P	A	ρ	P	P	h	A	P	A	A	P	P		-		ρ	A	A	PF	A	A	P	A	F	A	P	A
42.	Parikshit D. Gotmare	P	R	ρ	A	_	A	P	A	P	P	B	P	P	A				A Y	7	P	PF	A	+		A	P	A	P	+	P
43.	Pranay Rajesh Chauragade	ρ	A	A	P	A	P	A	P	A	A	P	P	P	P	A	A	P	P	7	AI	7 4	OA	A	P	A	P	A	P	A	P
44.	Purva Sanjay Kohad	A	P	P	A	P	P	ρ	A	P	ρ	A	P	ρ	P	A	P	ρ	·		_	Pf		A	+-	P	P	A	P		A
45	Rafiya Anjum Inteyaj Ahmad Sheikh	P	P	A	P	A	P	A	P	A	A	D	P	D	P	7		P	P	-	_	PF	+	A	A	P	P	P	0	-	17
46	Rakhi Basant Chavhan	ρ	A	P	A	A	A	P	A	P	P	4	ρ	0	A	A	P	P	-	-	_	μ	A	D	P	A	P	D	1	-	P
47	. Rakhi Sanjay Ninawe	P	P	À	P	P	b	A	P	A	P	ρ	A	p	P	A	A	' 	'	_	-	A C	-	A	A	A	<u>'</u>		-	P	P
48	. Rani Basant Bahira	P	A	P	A	A	A	A	A	P	A	P	A	A	A	P	A	-	•	A	_	AI		P	A	P		A			D
49	. Rashi Sandeep Sharma	ρ	A	A	P	A	P	P	A	P	A	P	A	Þ	A	P	Λ	-	_	-	A	A D	A	A	A	A	A			A	P
50	. Riya Rajendra Sepurwar	P	A	A	A	P	A	P	ρ	P	A	A	P	P	P	A	A	A	A	P	-	D	-	P	A	A	P	P	A	-	A
51	. Saloni Girish Raut	A	ρ	P	A	A	P	P	A	A	P	D	A	P	A	A	P	A	A	P	P	_	P	P	P	P	P	A	-	_	A
52	. Samiksha Ghanshyam Khot	P	A	A	P	P	P	P	A	P	A	A	A	A	P	A	P	A	A	P	A	AI	A A	D	A	A	A	P	P	/	A
53	. Sanika Dilip Raut	P	A	P	A	Α	P	A	A	p	P	P	P	A	A	ρ	P	P	P	A	_	_	AF	7	A	P	P	A	A		A
54	. Sejal Shankar Shrirame	P	A	A	P	P	A	P	P	A	A	P	P	A	A	A	P	A	A	D	A		PF	5	P	P	A	ρ	η. 10	P	A
55	Shamim Kausar M Shahzad	A	P	A	P	A	P	P	A	P	A	P	A	_	P	P	P	A	P	A	P	- +	PA	+	+ ·	A	A	P	A	A	A
56	Shantanu Singh Chauhan	P	A	P	P	P	P	P	P	P	A	P	P	P	A	A	P	P	P	A	A	<u>-</u>	PA	+-	-	P	P	A	P	p	A
57	Shravani Kawdoo Lohakare	P	A	A	P	A	A	P	P	P	P	A	A	A	A	D	P	A	A	P	P	• /	30 P	-	+-	M	A	P	A	A	A
58	Shravani Ramesh Choudhari	P	P	D	P	A	P	A	P	A	A	A	P	P	Þ	þ	A	7	A	A	A	A	AA	P	A	P	P	A	D	A	A
59	Shrishti Ravindra Dhote	P	A	A	P	P	P	P	P	P	A	P	P	B	A	A	P	P	P	7	P	1 0	PF	-	P	P	D	0	P	P	7
60	Shrivin Navin Meshram	A	P	A	A	A	A	Ä	A	P		P	P	A	P	P	P	A	p	P	A	99	0 0	A	A	P	P	A	A	A	B
61	Shruti Avinash Talhar	P	A	P	A	P	A	-	1	A	A	n	A	P	P	A	A	-	A	A	n	P	A A	-	-	1	P		P	Þ	A
62	Siddhi Madhav Godse	A	P	A	A	A	P	P	P	A	_	A	P	P	P	A	P	A	A	P			AF	+ -		+	A	A	A	ħ	A
63	. Siddhi Vyankatesh Buddhalwar	P	A	A	P	P	P	A	+ '-	P	A	+	P	A	P	9	P	A	A	P	A	\rightarrow	AF	-		-	A	A	_	A	A
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1	64.	Snehal Naresh Sahare	A	D	P	P	A	P	A	A	A	P	A	A	P	A	P	P	A	A	P	A	P	A	A	A	P	P	P	P	D	7	P
175	65.	Sourabhi Rajendra Khaparde	P	A	P	A	P	A	A	P	P	P	A	P	7	P	P	P	A	A	P	P	P	P	A	P	P	P	A	P	P	P	0
	66.	Tejasvi Nitin Hadge	A	P	A	P	A	P	P	A	P	A	A	P	A	P	8	A	P	P	P	P	P	A	A	P	A	A	A	P	P	A	A
	67.	Vaibhav Vilesh Thakkar	A	A	P	A	P	7	A	P	A	P	P	A	P	9	P	P	P	A	P	A	A	A	A	ρ.	A	P	P	P	A	P	P
	68.	Vaidehi Vivek Telang	P	P	A	P	P	A	A	A	P	P	8	P	P	A	P	A	A	P	P	A	P	P	A	p	P	P	P	n	P	P	P
	69.	Vaishnavi Raju Nannawre	P	A	P	A	A	P	P	A	A	A	A	P	A	A	A	P	P	A	P	P	A	A	P	P	A	P	P	P	P	9	P
	70.	Vaishnavi Vinayak Ingle	A	P	P	P	A	A	P	A	P	P	P	A	P	P	P	P	P	P	P	PT	A	P	1	A	P	P	P	A	A	P	P
	71.	Vami Kishor Masram	P	P	A	A	P	A	P	P	A	A	P	P	A	A	P	P	A	A	P	P	P	AF	١	P	P	P	A	A	p.	P 1	
	72.	Vinars Narayan Patle	P	A	P	P	A	A	P	P	A	P	A	P	P	P	P	p	A	P	P	7	A	A	P	P	A	P	P	P	P	A F	7
	73.	Yash Dilip Giri	A	P	P	P	P	P	A	A	P	P	A	P	P	A	A	P	P	P	P	A	P	P	A	A	A	P	A 1	A	D	2 1	P



SBagles Dr. Sapra Bagles

ATTENDENCE SHEET (2023-24)

S.S.E.S.A's Science College, Congress Nagar, Nagpur

Skill Course Immunology and Immunodiagnostics

Class: Immunology and Immunodiagnostics

Theory/ Practical:

Month: April, May, July
Name of Lecturer: Dr. Sapra Baghel

														 		 			 		 		<u> </u>			
Sr. No	Name of Student	8 puku	h6/40/61	24/04/24	व्डिक्ट	2/05/20	भ्देऽपेश्व	45/50/60	10/05/24	sz/co ho	45/co/sa	וו מו גא	12/07/21									- 1				
1.	Aditi Ramkrishnaji Gurve	P	A	P	A	ρ	P	P	P	P	P	P	P			5						-				
2.	Aditya Anand Waghmare	A	P	P	ρ	A	P	ρ	D	P	P	P	P									1 - 12				
3.	Akansha Vijay Tekade	P	A	P	P	A	P	A	P	A	A	P	0		- 25/2											
4.	Anisha Arvind Shende	P	P	A	A	P	P	A	A	P	P	A	P		-						Seq.					11 - 1
5.	Anobha Narendra Madre	P	A	P	P	P	A	P	P	A	P	A	Ρ										-			
6.	Anuradha Purushottam Khope	P	P	P	A	P	ρ	P	A	P	P	P	P												0.00	
7.	Anushka Vikram Wagh	P	A	P	P	P	P	A	P	P	P	P	·A													
8.	Arshiya Shaikh Mushtaque	A	P	P	P	A	P	P	P	A	P	P	P				-									4
9.	Aryan Shripad Joshi	P	A	P	P	P	A	P	Ρ	A	P	P	P									7	4			
10.	Ashwini Yuvraj Sidam	P	A	P	P	P	A	P	A	P	A	P	P												- 1	10 m L
11.	Astha Sanjay Nagbhidkar	A	P	P	P	P	P	P	P	A	P	A	P													
12.	Ayushi Rupesh Sirsath	P	P	A	P	ρ	A	P	P	A	P	P	P													1.1
13.	Chetana Shaktiprasad Das	A	P	A	P	P	P	P	P	A	P	P	P					11.4.499							1	
14.	Durgesh Gokul Pandey	P	A	P	A	P	P	P	A	P	A	P	P					-								
15.	Eshika Raju Parmar	P	P	P	A	P	P	A	P	A	P	A	P													
16.	Gargi Shailesh Garode	P	A	P	P	A	P	P	A	P	P	P	A									0 1/	2	0.0	-	

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17.	Gayatri Ravi Bhise	P	P	P	4	P	P	P	A	P	P	A	P															
18.	Harshal Dilip Upadhye	Р	A	P	P	A	P	P	A	P	P	P	ρ															
19.	Humera Afroz	P	P	P	P	P		P	P	ρ	ρ	P	P															
20.	Ishika Amarnath Pandey	P	ρ	P	A	P	P	ρ	P	A	P	P	P															
21.	Ishita Yogesh Padgil	P	P	P	A	ρ	P	A	P	Ρ	Ρ	ρ	P					201						141				\exists
22.	Ishwari Nandkishor Gawande	A	A	P	P	P	ρ	P	A	P	P	P	P			V- 1	1 4 2				4						1	7
23.	Jahanvi Suresh Kumar Tale	P	P	A	P	A	P	P	P	A	P	Ρ	P								-17.			-	- 22		1 1 24.21	1
24.	Janhvi Ravi Kudkelwar	P	P	A	P	P	Α	P	P	A	P	Ρ	P															
25	. Jiya Ashok Yadav	A	P	P	P	A	P	P	P	A	P	P	ρ												1			
26	. Kajal Tulshidas Rahangdale	P	P	P	A	P	P	P	A	A	P	P	A						-									
27	. Kalyani Girish Rajpurohit	A	P	P	P	A	P	P	P	P	P	P	P		1													
28	. Ketaki Prakash Chaudhari	A	A	P	P	P	A	P	P	P	A	P	P	1														
29	. Khushi Bhumiraj Rahate	P	A	P	A	P	A	P	A	P	A	P	P															
30	. Khushi Rajendra Anmadwar	A	P	A	P	A	P	A	P	P	P	A	P														1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
31	Leena Narendra Meher	P	P	P	A	P	P	P	1 '	P	Ρ	P	P															
32	. Mahi Pramod Manwatkar	A	P	P	P	A	P	P	P	F	P	P	P										la-					
33	Manmeet Kaur Ranjeet Singh Saluja	P	P	ρ	A	P	P	P	A	P	P	P	A														-	1
34	Mansi Hanuman Pathe	A	P	P	P	A	P	P	A	P	P	P	P															- E
35	5. Mayur Yogeshwar Kadamdhad	F	P	P	A	P	P	P	A	P	P	P	P												1			1
36	5. Mohini Vinod Raut	P	A	P	P	A	P	P	A	P	P																	
37	7. Mrunali Moreshwar Waghmare	A	P	P	A	P	A	A	P	A	F	P	P															
38	3. Nandini Arvind Wadaskar	P	A	F	P	A	P	F	A	P	1	P	P												_		_	
39	Nikhil Jitendra Malik	4	AP) (F	> 6	P	P	A	P	6	P	P	P											\				. 8

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40.	Nital Pralhad Patle	P	P	P	A	P	P	A	P	P	P	A	P							1	4 1							
41.	Nitesh Siddharth Wakde	A	P	P	A	P	P	P	A	P	A	P	P													111		
42.	Parikshit D. Gotmare	P	ρ	A	ρ	A	P	A	P	A	P	P	ρ															
43.	Pranay Rajesh Chauragade	P	A	P	P	P	A	P	A	P	P	P	A															
44.	Purva Sanjay Kohad	A	Ρ	A	P	P	P	A	P	P	A	P	P															
45.	Rafiya Anjum Inteyaj Ahmad Sheikh	P	P	P	A	P	P	A	P	P	P	P	P										. ~					\prod
46.	Rakhi Basant Chavhan	A	P	A	P	A	P	P	A	P	ρ	A	P			Y 55		K g j										
47.	Rakhi Sanjay Ninawe	P	A	P	A	P	A	ρ	A	P	A	P	A				2 J				-	-100	1 1	12			1 1.01	
48.	Rani Basant Bahira	A	P	A	P	A	P	P	P	A	P	A	P															
49.	Rashi Sandeep Sharma	P	P	A	P	٩	A	P	P	A	P	P	P															
50.	Riya Rajendra Sepurwar	P	A	P	A	P	A	P	A	P	A	P	A															
51.	Saloni Girish Raut	A	P	A	P	A	P	A	P	A	P	A	P													in sty	- 1	
52.	Samiksha Ghanshyam Khot	P	P	P	A	P	P	P	A	A	P	P	P											A RECORD			100	
53.	Sanika Dilip Raut	A	P	P	P	P	A	P	P	A	P	A	P	¥										\perp		\perp		
54.	Sejal Shankar Shrirame	ρ	A	P	P	P	A	P	P	P	A	P	P									\perp				\perp		
55	Shamim Kausar M Shahzad	A	P	P	P	A	P	A	P	P	P	A	P									\perp		\perp				
56	. Shantanu Singh Chauhan	P	P	A	P	P	A	P	A	P	A	P	P									1,000		\perp				\perp
57		P	A	P	A	P	A	P	P	P	P	A	Ρ										A C			\perp	\perp	
58	. Shravani Ramesh Choudhari	A	P	P	P	A	P	A	P	P	P	P	P									\perp				\perp		
59	. Shrishti Ravindra Dhote	P	A	P	A	P	P	A		_	P	P	P									\perp				_	_	
60	. Shrivin Navin Meshram	P	A	A	P	A	P	A	f	P	A	A	P							_		\perp		\perp		_	\perp	
61	Shruti Avinash Talhar	P	A	P	A	P	A	P	F		P											\perp		\perp			\perp	
62	Siddhi Madhav Godse	A	P	A	P	A	P	A	p	P	P	P	P						_			\perp		\perp	1	\perp	\perp	
63	. Siddhi Vyankatesh Buddhalwar	TP	9	P	A	P	P	P	A	1	7 6	A	P										A.	\perp		\rightarrow	~ \	
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64.	Snehal Naresh Sahare	P	A	A	P	A	P	P	A	P	A	A	P												\int	T
65.	Sourabhi Rajendra Khaparde	A	P	P	A	9	P	A	P	A	ρ	A	P									\exists				
66.	Tejasvi Nitin Hadge	P	A	A	P	A	P	P	A	P	P	A	P							1		1				
67.	Vaibhav Vilesh Thakkar	A	P	P	Α	P	A	P	P	A	A	P	A						1			\top	\exists			
68.	Vaidehi Vivek Telang	P	A	A	P	A	P	A	P	A	P	P	P													
69.	Vaishnavi Raju Nannawre	P	P	A	P	A	P	A	P	A	P	A	ρ					T				T	\exists	\top		\neg
70.	Vaishnavi Vinayak Ingle	P	A	P	A	P	A	P	A	ρ	A	P	A									T	\top	1	\top	\exists
71.	Vami Kishor Masram	A	P	A	P	P	A	P	ρ	ρ	A	P	P				=				4				\top	7
72.	Vinars Narayan Patle	P	A	P	A	P	A	P	P	P	A	P	P													
73.	Yash Dilip Giri	A	P	P	A	A	P	A	P	A	P	P	A													



Dr. Sapra Baghel

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

UG Department of Biotechnology

EXAMINATION NOTICE

Date: 08/07/2024

All the students enrolled for Skill Based Course: Immunology and

Immunodiagnostics for the session 2023-24 are informed that Theory and Practical Exam of the course is scheduled on 16/07/2024. All the appearing students are informed to remain present in Biotechnology Laboratory at 10:30 – 11:30AM AM for Theory Exam and at 12:30PM –

5:30PM for Practical Exam.

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S.S.E.S.A's Science College, Congress Nagar, Nagpur DEPARTMENT OF BIOTECHNOLOGY

Skill based Certificate Course: Immunology and Immunodiagnostics Session 2023- 2024

Attendance Sheet for Theory Exam

Date 16-07-2024

Sr. No	Roll No.	Name of the Candidate	Signature of the Candidate	Signature of the of the Invigilator
1.	2023001	Aditi Ramkrishnaji Gurve	- ABSENT-	
2.	2023002	Aditya Anand Waghmare	Weiter	Chien
3.	2023003	Akansha Vijay Tekade	Denede	Fale.
4.	2023004	Anisha Arvind Shende	A.	10 10x
5.	2023005	Anobha Narendra Madre	- ABSENT-	Fale
6.	2023006	Anuradha Purushottam Khope	Thope	(Bullet
7.	2023007	Anushka Vikram Wagh	N.V WOOD	· Capiler.
8.	2023008	Arshiya Shaikh Mushtaque	Azshiya.	Locales
9.	2023009	Aryan Shripad Joshi	AVANU	(faller.
10.	2023010 ·	Ashwini Yuvraj Sidam	- ABS ENT-	Fall
11.	2023011	Astha Sanjay Nagbhidkar	ASTRO	Feeler
12.	2023012	Ayushi Rupesh Sirsath	Alitoth.	1000
13.	2023013	Chetana Shaktiprasad Das	Nuc.	Tale
14.	2023014	Durgesh Gokul Pandey	Engel.	Grater.
15.	2023015	Eshika Raju Parmar	Bluber	Breven.
16.	2023016	Gargi Shailesh Garode	Bjarode	Buen.
17.	2023017	Gayatri Ravi Bhise	CA.R.BUSS	Freder .
18.	2023018	Harshal Dilip Upadhye	28	(35)1er
19.	2023019	Humera Afroz	CAL.	date
20.	2023020	Ishika Amarnath Pandey	Thondy	Catalan
21.	2023021	Ishita Yogesh Padgil	Thriday	Auru
22.	2023022	Ishwari Nandkishor Gawande	Ishbah	(Fater
23.	2023023	Jahanvi Suresh Kumar Tale	Oklin.	Hoden'
24.	2023024	Janhvi Ravi Kudkelwar	Jay	Contell.
25.	2023025	Jiya Ashok Yadav	Typiclew.	\$Bagu
26.	2023026	Kajal Tulshidas Rahangdale	KRahang deve	Sharl
27.	2023027	Kalyani Girish Rajpurohit	- ABSENT-	2 Bahil
28.	2023028	Ketaki Prakash Chaudhari	·Qlas	Sandy
29.	2023029	Khushi Bhumiraj Rahate	VQ.	Scare
30.	2023030	Khushi Rajendra Anmadwar	book	J. Boulet
31.	2023031	Leena Narendra Meher	ancher	2001.1

32.	2023032	Mahi Pramod Manwatkar	A Recettace	Sporale
33.	2023033	Manmeet Kaur Ranjeet Singh Saluja	(Manmeet-16.	2851
34.	2023034	Mansi Hanuman Pathe	Mouthe	Spanel
35.	2023035	Mayur Yogeshwar Kadamdhad	anayue?	Spand
36.	2023036	Mohini Vinod Raut	- ABSENT-	Sparel
37.	2023037	Mrunali Moreshwar Waghmare	Maghamase	2000
38.	2023038	Nandini Arvind Wadaskar	Wardini.	SBALL
39.	2023039	Nikhil Jitendra Malik	Pauc	20 Me
40.	2023040	Nital Pralhad Patle	(Really	2 Bank
41.	2023041	Nitesh Siddharth Wakde	Nik!	Bashy
42.	2023042	Parikshit D Gotmare	P	2000
43.	2023043	Pranay Rajesh Chauragade	- ABSENT-	22200
44.	2023044	Purva Sanjay Kohad	Quedra	8860
45.	2023045	Rafiya Anjum Inteyaj Ahmad Sheikh	PLECL	& Bablel
46.	2023046	Rakhi Basant Chavhan	De Law Sen	2B Mel
47.	2023047	Rakhi Sanjay Ninawe	total.	Sande
48.	2023048	Rani Basant Bahira	- ABSENT-	2300
49.	2023049	Rashi Sandeep Sharma	Luci	- Constante !
50.	2023050	Riya Rajendra Sepurwar	Reputation .	Fortestante.
51.	2023051	Saloni Girish Raut	Quant	Sociale
52.	2023052	Samiksha Ghanshyam Khot	Sudie	Seporte
53.	2023053	Sanika Dilip Raut	Rout.	motoute
54.	2023054	Sejal Shankar Shrirame	58. Shuisame	- Setule.
55.	2023055	Shamim Kausar M Shahzad	Shamin	Sevade
56.	2023056	Shantanu Singh Chauhan	00	Tresaide
57.	2023057	Shravani Kawdoo Lohakare	Mahakas	Sometimente
58.	2023058	Shravani Ramesh Choudhari	thealalus -	Constante
59.	2023059	Shrishti Ravindra Dhote	Brute	metaute
60.	2023060	Shrivin Navin Meshram	- ARSENT	- Detaile.
61.	2023061	Shrushti Yaker	Steam	mekacte
62.	2023062	Shruti Avinash Talhar	Spring .	mediate
63.	2023063	Siddhi Madhav Godse	marche.	Bharma.
64.	2023064	Siddhi Vyankatesh Buddhalwar	Widdlin	Charma.
65.	2023065	Snehal Naresh Sahare	g. N. Sahare	Chama
66.	2023066	Sonali Lande	Such	Charma
67.	2023067	Sourabhi Rajendra Khaparde	Qualiti	Huma
68.	2023068	Tejasvi Nitin Hadge	Wash	Minno
69.	2023069	Vaibhav Vilesh Thakkar	- ABSENT-	Burn
70.	2023070		Otelang.	Sharm
71.	2023071	3	-ABSENZ-	gram
72.	2023072	Vaishnavi Vinayak Ingle	Will Ingre	Cham

73.	2023073	Vami Kishor Masram	Kani	gharma.
74.	2023074	Vinars Narayan Patle	Want	Bhamel
75.	2023075	Yash Dilip Giri	ave.	Mharma

Name of the Invigilator's -

1. Ms. Payal Talekar - Frekan 2 Dr. Sapna Baghel - Storged 3. Mrs. Sanka Tekade - Strekante 4. Mr. Piyushkumal R. Sharma. - Charma. 10/07/2024.

DEPARTMENT OF BIOTECHNOLOGY

Skill based Certificate Course: Immunology and Immunodiagnostics Session 2023- 2024

Attendance Sheet for Practical Exam

Date 16-07-2024

Sr. No	Roll No.	Name of the Candidate	Signature of the Candidate
1.	2023001	Aditi Ramkrishnaji Gurve	-ABSENT-
2.	2023002	Aditya Anand Waghmare	Weign
3.	2023003	Akansha Vijay Tekade	Michael
4.	2023004	Anisha Arvind Shende	(B)
5.	2023005	Anobha Narendra Madre	- ABSEINT-
6.	2023006	Anuradha Purushottam Khope	MELOPE
7.	2023007	Anushka Vikram Wagh	N. J. wagt
8.	2023008	Arshiya Shaikh Mushtaque	Arshiya
9.	2023009	Aryan Shripad Joshi	Aletoi
10	. 2023010	Ashwini Yuvraj Sidam	-ABSENT-
11	. 2023011	Astha Sanjay Nagbhidkar	AstRa
12	2023012	Ayushi Rupesh Sirsath	Qualith.
13	3. 2023013	Chetana Shaktiprasad Das	Que .
14	1. 2023014	Durgesh Gokul Pandey	Junets
15	5. 2023015	Eshika Raju Parmar	Thirty
10	6. 2023016	Gargi Shailesh Garode	garode.
1	7. 2023017	Gayatri Ravi Bhise	a.R.Bhise
1	8. 2023018	Harshal Dilip Upadhye	P
	9. 2023019		(2)4.
	0. 2023020		Theoder
	21. 2023021	5 5	Topadgil
	22. 2023022		Johnari
	23. 2023023		Albi
1	24. 2023024	Janhvi Ravi Kudkelwar	Laur

60.	2023060	Shrivin Navin Meshram	- ABSENT
61.1	2023061	Shrushti Yaker	Sheeth.
62.	2023062	Shruti Avinash Talhar	hours.
63.	2023063	Siddhi Madhav Godse	Agodse
64.	2023064	Siddhi Vyankatesh Buddhalwar	Biddle
65.	2023065	Snehal Naresh Sahare	2, Nisahall
66.	2023066	Sonali Lande	Starele
67.	2023067	Sourabhi Rajendra Khaparde	Dwodehi
68.	2023068	Tejasvi Nitin Hadge	THE CANE
69.	2023069	Vaibhav Vilesh Thakkar	-ABSENT-
70.	2023070	Vaidehi Vivek Telang	· Otelara
71.	2023071	Vaishnavi Raju Nannawre	-ABSENT-
72.	2023072	Vaishnavi Vinayak Ingle	(Mayo
73.	2023073	Vami Kishor Masram	Vami
74.	2023074	Vinars Narayan Patle	Chans
75.	2023075	Yash Dilip Giri	Tairi





25.	2023025	Jiya Ashok Yadav	Injudew.
26.	2023026	Kajal Tulshidas Rahangdale	Dahenerdak
27.	2023027	Kalyani Girish Rajpurohit	- ABSENT -
28.	2023028	Ketaki Prakash Chaudhari	Oltis
29.	2023029	Khushi Bhumiraj Rahate	the.
30.	2023030	Khushi Rajendra Anmadwar	KRONT
31.	2023031	Leena Narendra Meher	Queher
32.	2023032	Mahi Pramod Manwatkar	Meethan.
33.	2023033	Manmeet Kaur Ranject Singh Saluja	Wannest-K.
34.	2023034	Mansi Hanuman Pathe	Modhe
35.	2023035	Mayur Yogeshwar Kadamdhad	a Way ut
36.	2023036	Mohini Vinod Raut	-ABSENT -
37.	2023037	Mrunali Moreshwar Waghmare	KHAyhamase
38.	2023038	Nandini Arvind Wadaskar	Wardine.
39.	2023039	Nikhil Jitendra Malik	(A)
40.	2023040	Nital Pralhad Patle	Neek
41.	2023041	Nitesh Siddharth Wakde	Nil.
42.	2023042	Parikshit D Gotmare	Ž.
43.	2023043	Pranay Rajesh Chauragade	- ABSENT-
44.	2023044	Purva Sanjay Kohad	Quera
45.	2023045	Rafiya Anjum Inteyaj Ahmad Sheikh	Philiph.
46.	2023046	Rakhi Basant Chavhan	Penantam
47.	2023047	Rakhi Sanjay Ninawe	Paret
48.	2023048	Rani Basant Bahira	-ABSENT-
49.	2023049	Rashi Sandeep Sharma	Land
50.	2023050	Riya Rajendra Sepurwar	Regumoar.
51.	2023051	Saloni Girish Raut	Num
52.	2023052	Samiksha Ghanshyam Khot	Sanda
53.	2023053	Sanika Dilip Raut	saut -
54.	2023054	Sejal Shankar Shrirame	58. Shuirame
55.	2023055	Shamim Kausar M Shahzad	Shoenin
56.	2023056	Shantanu Singh Chauhan	200

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Certific	cate Course Examination, Summ	er- 2023-24
Name of Subject: Immunology	and Immunodiagnostics	
Medium: English		Marks Obtained:
Centre Name: Science College C	ongress Nagar, Nagpur	
Name of Student:	Class:	Group:
Roll Number:		
Duration: 1hr		Max Marks: 50
Invigilator's Sign	Signature	e of Examiner

Note:

- 1) Each Question Carries 2 Marks.
- 2) Each Question is Compulsory.
- 3) No Negative Marking
 - 1. Which stain is used to identify acid-fast bacteria such as Mycobacterium tuberculosis?
 - a) Gram stain
 - b) Ziehl-Neelsen stain
 - c) PAS stain
 - d) Alcian blue stain
 - 2. In an antibody molecule, each light chain is bound to heavy chain by which force?
 - a) Disulfide bridges
 - b) Electrostatic force
 - c) Covalent interactions
 - d) Hydrogen bonding
 - 3. Match the following:

1) Precipitation	A) Radioimmunoassay
2) Agglutination	B) Clumping

		3) (Quantitative method	C) Precipitin
	;	a) 1-	A, 2-C, 3-B	
		-	C, 2-B, 3-A	
		-	B, 2-A, 3-C	
4.	Endofl	lagell	lum is present in which class of	f bacteria?
	;	a) Sp	pirilla	
	1	b) Sp	pirochetes	
		c) Ba	icillus	
		d) Co	occus	
5.	The ty	pe of	f ELISA in which antigen is sand	dwiched between two antibodies is
	knowr	ı as:		
	;	a) Di	rect ELISA	
	1	b) Sa	ındwich ELISA	
		c) In	direct ELISA	
		d) Co	ompetitive ELISA	
6.	The ty	pe of	f immunoglobulin which is pre	sent in tears, saliva, colostrum:
		a) Ig	gD	
		b) Ig	gE	
		c) Ig	gA	
		d) Ig	gM	
7.	Which	of th	ne following is an example of pi	rimary lymphoid organ from the given
	option	ıs?		
		a) B	one marrow	
		b) S	pleen	
		c) L	ymph node	
		d) G	ALT	
8.	Which	one	of the following is the serologi	cal test for detection of salmonella
	infecte	ed typ	phoid fever?	
		a)	Immunodiffusion	
		b)	HCG test	
		c)	ELISA	
		d)	Widal test	

9. The first symptom of rheumatoid arthritis (RA) is most often:

a) Pain in the joints of the hands and feet

b	Pain in the hips and shoulders
c)	Headache
d) All of the above
10. Which cla	ss of antibodies is the most abundant in blood ?
ä	a) IgA
1	o) IgG
(e) IgD
(l) IgE
11. How wer	e retroviruses discovered ?
ä	a) In chickens as Rous sarcoma
1	o) In humans as HTLV-1
(e) In mice causing leukaemia
(l) In cat causing leukaemia
12. Which of	the following cells are primarily involved in cell-mediated immunity?
ä	a) T cells
1	b) B cells
(e) Mast cells
(l) Basophils
13. Lag ph	ase is also known as
a)	Period of initial adjustment
b)	Transitional period
c)	Generation time
d)	Period of rapid growth
14. Which of	the following statements is true about the IgM of humans?
a)	IgM can cross the placenta
b)	IgM can protect the mucosal surface
c)	IgM is produced by high-affinity plasma cells
d)	IgM is primarily restricted in the circulation
15. Which of	the following is a characteristic of gram-negative bacteria?
a	Retain crystal violet stain
b) Thick peptidoglycan layer
c]	Lipopolysaccharide outer membrane
d	Purple color when stained
16. Which of	the following does not act as a protecting barrier for the body surface
ä	a) Skin

d) Salivary amylase
17. Which term refers to the ability of a pathogen to cause disease?
a) Virulence
b) Pathogenicity
c) Infectivity
d) Resistance
18. Who published the first report about the ability of antibody to clump cells
based on the observation of agglutination of bacterial cells by serum
a) Gruber and Durham
b) Nocard and Roux
c) Paul Ehrlich
d) Both b and c
19. Syphilis is a term that is frequently used.
a) The dictator who cannot be seen
b) The world's greatest imitator
c) The apocalyptic figure of the great terminator
d) The emperor who terrorises the people
20. What is a retrovirus?
a) A virus that infects only bacteria
b) A virus that contains DNA as its genetic material
c) A virus that infects only plants
d) A virus that uses RNA as its genetic material
21. Salmonella typhi is causative organism of
a) Undulent fever
b) Remittent fever
c) Dengue fever
d) Enteric fever
22. Who described the first human retrovirus?
a) Peyton Rous
b) Bob Gallo
c) Temin
d) Baltimore

 $23. \, The \, molecular \, weight \, of \, the \, compounds \, to \, be \, immunogenic \, must \, be \,$

b) Mucus

c) Gastric

- a) <1000 Da
- b) 3000 Da
- c) 2000 Da
- d) >6000 Da
- 24. What is an antigen
 - a) A type of white blood cell
 - b) A molecule that can induce an immune response
 - c) A type of antibody
 - d) A cell that engulfs pathogens
- 25. Identify the CORRECT statement from the following sentences given below?
 - a) All immunogen are antigens and all antigens are immunogens.
 - b) All immunogens are antigens but NOT all antigens are immunogens.
 - c) All immunogens are NOT antigens but all antigens are immunogens.
 - d) All immunogens are NOT antigens but all antigens are NOT immunogens.

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Exam Name: Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

Answer key

- 1) b) Ziehl-Neelsen stain
- 2) a) Disulfide bridges
- 3) b) 1-C, 2-B, 3-A
- 4) b) Spirochetes
- 5) b) Sandwich ELISA
- 6) c) IgA
- 7) a) Bone marrow
- 8) d) Widal test
- 9) a) Pain in the joints of the hands and feet
- 10)b) IgG
- 11)a) In chickens as Rous sarcoma
- 12)a) T cells
- 13)a) period of initial adjustment
- 14)d) IgM is primarily restricted in the circulation.
- 15)c) Lipopolysaccharide outer membrane
- 16)d) Salivary amylase
- 17)b) Pathogenicity
- 18)a) Gruber and Durham
- 19)b) The world's greatest imitator
- 20)d) A virus that uses RNA as its genetic material
- 21)d) Enteric fever
- 22)b) Bob Gallo
- 23)d) >6000 Da
- 24)b) A molecule that can induce an immune response
- 25) b) All immunogens are antigens but NOT all antigens are immunogens

Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

	ractical ubject	Exam Question Paper: : Immunology and Immunodiagnostics	
C	enter	: S.S.E.S. A's Science College, Nagpur	
T	'ime	: 5 hrs per day	
D	ates	: 16/07/2024	
		Max. Marks	: 40
Q.1	To deter	mine blood group and Rh factor of the given blood sample.	10
Q.2	To Perfo	rm Rheumatoid Arthritis (RA) Test	10
Q.4	Viva-Voc	re	10
Q.5	Practical	Record	10
		Total Marks	40



Skill Based Course: Immunology and Immunodiagnostics (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 APQN Recognized Centre for Higher Learning and Research Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

U.G. DEPARTMENT OF BIOTECHNOLOGY

Skill Based Course

Course Exam Name: Immunology and Immunodiagnostics								
Name of Studer		dey	INSTRUCTIONS FOR FILLING THE SHEET 1. This sheet should not be folded or crushed. 2. Use only blue/ black ball point pen to fill the circles. 3. Use of pencil is strictly prohibited.					
Roll No.:	Session: 2023-24			4. Circles should be darkened completely and properly. 5. Cutting and erasing on this sheet is not allowed. 6. Do not use any stray marks on the sheet. 7. Do not use marker or white fluid to hide the mark.				
Test Date: 16/07/	Max. Marks: 50							
Invigilator Signature		Obtained Marks:		44	WRONG METHODS CORRECT METHOD ⊗ ● 穏 ♥ ○ ○ ○ ●			
A B C D		B C D		B C D	A B C E			
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30000	13 🔾	•00	23 🔾	000	33 0000	43 0000		
40000	14 🔾	000	24 🔾	•00	34 0000	4 0000		
5 0 • 0 0	15 🔘	000	25 🔾	•00	35 0000	45 0000		
60000	16 🔾	000	26 🔾	000	36 000	46 0 0 0 0		
7 0000	17 🔾	•00	27 🔾	000	37 0000	47 0000		
8000	18 🔾	000	28 🔾	000	38 0000	48 0000		
• • • • • • •	19 🔾	00	29 🔾	000	39 🔾 🔾 🔾	49 0000		
10 0 • 0 0	20 🔾	000	30 ()	000	40 0000	50 0000		

Mark List: Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

Sr.	Name of the Student	Marks	Marks	Marks	Total	Grade
No		obtained	obtained	obtained	marks	
		out of 50	out of 10	out of 40	out of	
		(Theory)	(Theory	(Practical)	100	
			Internals)			
1)	Aditi Ramkrishnaji Gurve	AB	AB	AB	AB	AB
2)	Aditya Anand Waghmare	32	10	39	81	A+
3)	Akansha Vijay Tekade	32	10	38	80	A
4)	Anisha Arvind Shende	38	09	38	85	A+
5)	Anobha Narendra Madre	AB	AB	AB	AB	AB
6)	Anuradha Purushottam	40	10	38	88	A+
	Khope					
7)	Anushka Vikram Wagh	36	10	37	83	A+
8)	Arshiya Shaikh Mushtaque	24	10	37	71	A
9)	Aryan Shripad Joshi	40	10	36	86	A+
10)	Ashwini Yuvraj Sidam	AB	AB	AB	AB	AB
11)	Astha Sanjay Nagbhidkar	18	10	37	65	B+
12)	Ayushi Rupesh Sirsath	24	10	38	72	A
13)	Chetana Shaktiprasad Das	34	10	39	83	A+
14)	Durgesh Gokul Pandey	44	10	38	92	0
15)	Eshika Raju Parmar	36	10	36	82	A+
16)	Gargi Shailesh Garode	24	10	37	71	A
17)	Gayatri Ravi Bhise	30	10	38	78	A
18)	Harshal Dilip Upadhye	38	10	38	86	A+
19)	Humera Afroz	42	10	39	91	0
20)	Ishika Amarnath Pandey	44	10	40	94	0
21)	Ishita Yogesh Padgil	26	10	38	74	A
22)	Ishwari Nandkishor	38	10	38	86	A+
	Gawande					
23)	Jahanvi Suresh Kumar Tale	32	10	39	81	A+
24)	Janhvi Ravi Kudkelwar	24	10	38	72	A

25)	Jiya Ashok Yadav	22	10	39	71	A
26)	Kajal Tulshidas Rahangdale	28	10	38	76	A
27)	Kalyani Girish Rajpurohit	AB	AB	AB	AB	AB
28)	Ketaki Prakash Chaudhari	38	10	40	88	A+
29)	Khushi Bhumiraj Rahate	42	10	39	91	0
30)	Khushi Rajendra Anmadwar	46	10	39	95	0
31)	Leena Narendra Meher	40	10	39	89	A+
32)	Mahi Pramod Manwatkar	42	10	39	91	0
33)	Manmeet Kaur Ranjeet	40	10	38	88	A+
	Singh Saluja					
34)	Mansi Hanuman Pathe	30	10	36	76	A
35)	Mayur Yogeshwar	46	10	37	93	0
	Kadamdhad					
36)	Mohini Vinod Raut	AB	AB	AB	AB	AB
37)	Mrunali Moreshwar	32	10	37		A
	Waghmare				79	
38)	Nandini Arvind Wadaskar	36	10	38	84	A+
39)	Nikhil Jitendra Malik	42	10	37	89	A+
40)	Nital Pralhad Patle	40	09	36	85	A+
41)	Nitesh Siddharth Wakde	34	10	37	81	A+
42)	Parikshit D Gotmare	20	10	37	67	B+
43)	Pranay Rajesh Chauragade	AB	AB	AB	AB	AB
44)	Purva Sanjay Kohad	28	10	37	75	A
45)	Rafiya Anjum Inteyaj Ahmad	42	10	37	89	A+
	Sheikh					
46)	Rakhi Bharat Chavhan	28	10	37	75	A
47)	Rakhi Sanjay Ninawe	32	10	37	79	A
48)	Rani Basant Bahira	AB	AB	AB	AB	AB
49)	Rashi Sandeep Sharma	30	10	38	78	A
50)	Riya Rajendra Sepurwar	42	10	39	91	0
51)	Saloni Girish Raut	36	10	37	83	A+
52)	Samiksha Ghanshyam Khot	34	10	37	81	A+
53)	Sanika Dilip Raut	26	10	39	75	A
54)	Sejal Shankar Shrirame	44	10	39	93	0

55)	Shamim Kausar M Shahzad	24	10	37	71	A
56)	Shantanu Singh Chauhan	44	10	38	92	0
57)	Shravani Kawdoo Lohakare	38	10	37	85	A+
58)	Shravani Ramesh Choudhari	28	10	37	75	A
59)	Shrishti Ravindra Dhote	36	10	37	83	A+
60)	Shrivin Navin Meshram	AB	AB	AB	AB	AB
61)	Shrushti Yaker	22	10	38	70	B+
62)	Shruti Avinash Talhar	34	10	38	82	A+
63)	Siddhi Madhav Godse	40	10	39	89	A+
64)	Siddhi Vyankatesh	28	10	39	77	A
	Buddhalwar					
65)	Snehal Naresh Sahare	30	10	37	77	A
66)	Sonali Lande	38	10	37	85	A+
67)	Sourabhi Rajendra	26	10	38	74	A
	Khaparde					
68)	Tejasvi Nitin Hadge	24	10	39	73	A
69)	Vaibhav Vilesh Thakkar	AB	AB	AB	AB	AB
70)	Vaidehi Vivek Telang	36	10	38	84	A+
71)	Vaishnavi Raju Nannawre	AB	AB	AB	AB	AB
72)	Vaishnavi Vinayak Ingle	28	10	37	75	A
73)	Vami Kishor Masram	28	10	37	75	A
74)	Vinars Narayan Patle	42	10	37	89	A+
75)	Yash Dilip Giri	32	10	37	79	A



Skill Based Course: Immunology and Immunodiagnostics (Session 2023-24)

Feedback form

Thank you for participating in our Immunology and Immunodiagnostics course. Your feedback is crucial in helping us improve the course and enhance your learning experience. Please take a few moments to complete this feedback form.

Que. 1 How would you rate the overall quality of the Certificate Course – Immunology and Immunodiagnostics

- a) Excellent
- b) Good
- c) Average

Que. 2 How well did the Certificate Course - Immunology and Immunodiagnostics meet your expectations?

- a) Exceeded expectations
- b) Met expectations
- c) Below expectations

Que. 3 How effective were the course instructors in delivering the Certificate Course - Immunology and Immunodiagnostics

- a) Very effective
- b) Effective
- c) Ineffective

Que. 4 How likely are you to recommend the Certificate Course – Immunology and Immunodiagnostics to others?

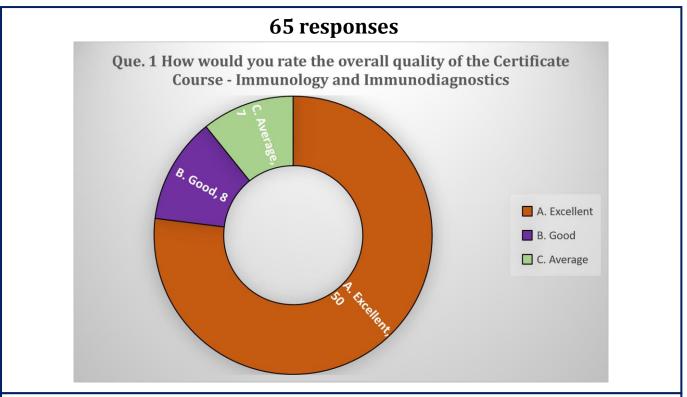
- a) Very Likely
- b) Likely
- c) Unlikely

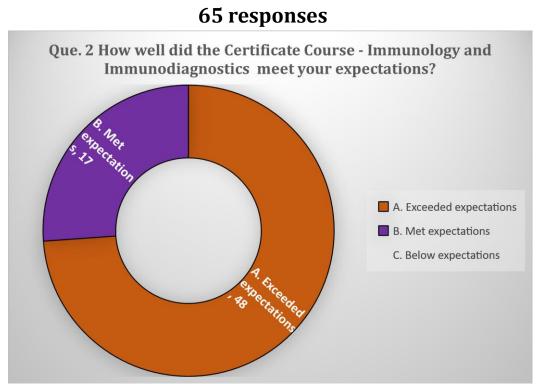
Que. 5 How satisfied are you with the practical sessions of the Certificate Course - Immunology and Immunodiagnostics?

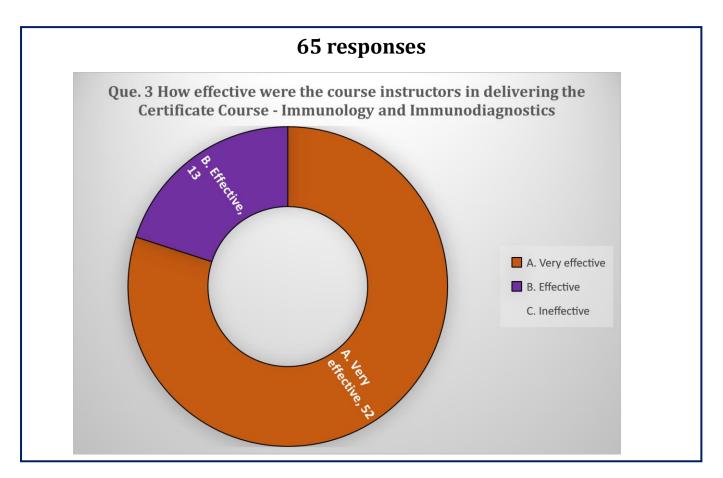
- a) Very Satisfied
- b) Satisfied
- c) Dissatisfied

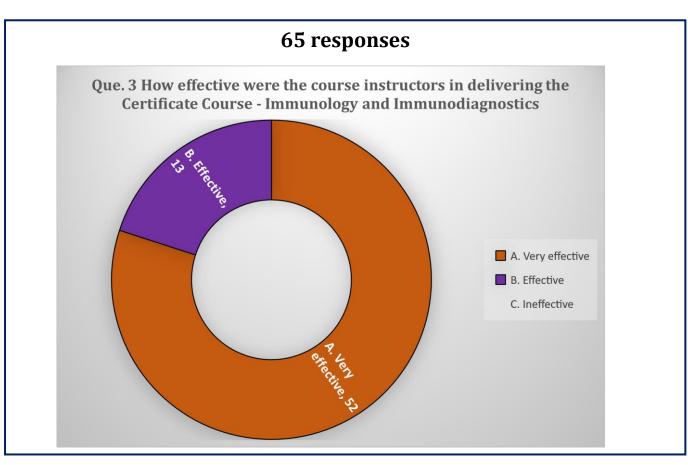
Skill Based Course: Immunology and Immunodiagnostics (Session 2022-23)

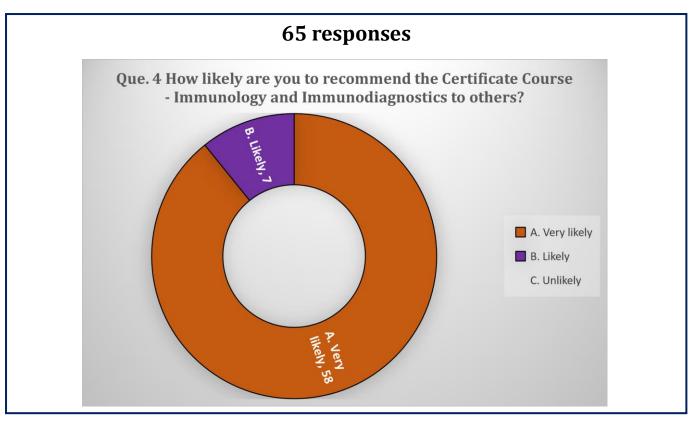
Feedback Response

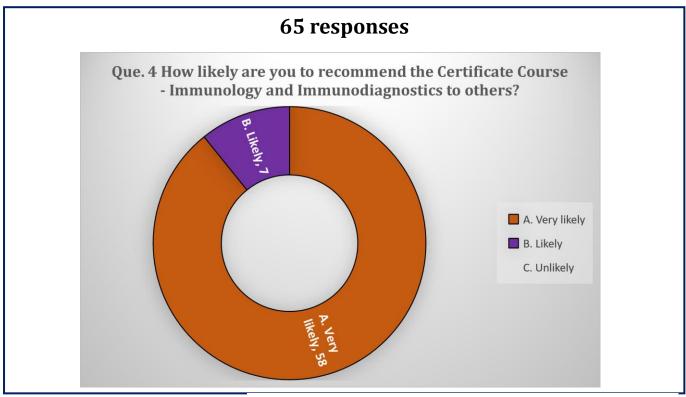












SBaglet

Dr. Sapna Baghel
Course- Coordinator
Add on Course

Dr. Amitabh Halder

IQAC Coordinator Internal Quality Assurance Cell (IQAC)

S. S. E. S. A. Science College Science College, Nagpur. Congress Nagar, Nagpur.

Meliore

Prof. Mahendra Dhore

Principal
Principal
S. S. E. S. Amravati's
cience College, Nagpur.