

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

**UG Department of Biotechnology
Skill Based Course: Immunology and Immunodiagnostics
Session 2022-23
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 6th September 2022 to 14th December 2022. 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 26 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 delve into the structure and function of the immune system, focusing on how immune responses work and the nature of immune-related diseases. They develop practical skills in applying diagnostic techniques to identify and analyze these conditions in clinical settings. The course also addresses the creation and utilization of immunological assays and tests for disease detection and monitoring. Additionally, students examine the latest advancements in immunotherapy and vaccine development, equipping them for leading roles in healthcare and research.



Deepthi

Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course



Immunology & Immunodiagnosics Kit based Hands on Training (2022-2023)

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

UG Department of Biotechnology

Skill Based Course: Immunology and Immunodiagnostics
Session 2022-23



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
Established by Government of Central Provinces Education Department by Notification No. 519 dated the 17th of August, 1923 &
presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No. 67 of 2016)
DEPARTMENT OF LIFELONG LEARNING AND EXTENSION
Gurunank Bhavan, University Campus, Amravati Road, Nagpur - 440 033. Phone : 2630860
E-mail : doll_rtmnu@gmail.com

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

No.DOLLE/ 305/22
Dated : 12.08.2022

Subject : **Sanction for Conducting Short Term Courses under Jeevan Shikshan
Abhiyan on No Grant Basis. (2022-23)**

Sir/Madam,

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:

Details of the Course

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 Environment and Water Management.	Prof. Yogita K. Meshram	43 hrs. (15 Weeks)	2	20	1500/-	10%
2	Certificate Course in Ground Water Exploration.	Ms. P. B. Zamarkar	45 hrs. T- 36 hrs. P- 09 hrs.	2	40	1500/-	10%
3	Certificate Course in Mushroom Cultivation.	Dr. R. H. Mahakhode	40 hrs. T- 20 hrs. P- 20 hrs.	2	40	1500/-	10%
4	Certificate Course in Immunology and Immunodiagnostics.	Dr. Deepthi Hynal	44 hrs. T- 36 hrs. P- 08 hrs.	2	20	1500/-	10%
5	Certificate Course in Fruit Processing and Wine Technology.	Dr. Pranita B. Gulhane	45 hrs. T- 37 hrs. P- 08 hrs.	2	20	1500/-	10%

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

- Owing to Covid-19 situations all the norms of Central & State Government and instructions by R.T.M. Nagpur University, Nagpur 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.
- Course should be started within a Month from **the date of sanction.**
- Submit the List of Students admitted in the excel format attached herewith.
Also send a soft copy in CD/Pen drive.

Your's faithfully

Director

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

UG Department of Biotechnology

NOTICE

Date: 22/08/2022

All the **Students of B.Sc-Part I, II and III of BIOTECHNOLOGY** are hereby informed that Department of Biotechnology is conducting **15 weeks Certificate course in IMMUNOLOGY & IMMUNO-DIAGNOSTICS** under **RTMNU Skill Based Program**. The fee for Certificate course will be **Rs 1500/- (One Thousand Five Hundred Rupees Only)**. For further enquiry and form collection contact **Ms. D. Deepthi Hynal** in Department of Biotechnology. Interested students can take admission before **1/10/2022**. Your registration will be confirmed upon receipt of payment, on a first-come-first serve basis. The registration will end when all 26 seats are filled.



Deepthi
Ms. D. Deepthi Hynal
Coordinator
Certificate Course
Immunodiagnostic



**U.G. DEPARTMENT OF BIOTECHNOLOGY,
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

Skill Based Course for the Session 2022-23

on

Immunology and Immunodiagnosics

Skill Based Certificate Course: Immunology and Immunodiagnosics

Course Co-ordinator: Ms. D. Deepthi Hynal

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 antigen-antibody 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 immunodiagnosics, 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: 01/10/2022

Prof. Atul Bobdey
Coordinator
Dept. of Biotechnology

Prof. Mahendra Dhore
Principal
Science College, Nagpur

Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course

UG Department of Biotechnology

Skill Based Course: Immunology and Immunodiagnostics

Session 2022-23

Course Co-ordinator: Ms. D. Deepthi Hynal

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 antigen-antibody 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

- 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 trends.

Duration of course: Fifteen weeks



Deepthi

Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course

UG Department of Biotechnology

Skill Based Course: Immunology and Immunodiagnostics

Session 2022-23

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 Immunodiagnostics	1. Theory paper - Immunodiagnostics	50	10		100
	2. Practical based on course			40	
		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.

Ms. D. Deepthi Hynal

Skill Based Course Coordinator



Dr. Amitabh Halder

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

Prof. Mahendra Dhore

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

UG Department of Biotechnology

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

Syllabus of Skill Based Course: Immunology and Immunodiagnostics

Course Units

Unit 1: Medical Microbiology

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

- *Spirochetes*
- *Salmonella*
- Retro Virus (HIV)

Unit 2: Immunology

Immune system, Organs and cells of immune system, Immunity, Innate immunity, Acquired Immunity, Antigen, Antibody.

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.



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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



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 Skill Based Course

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

w.e.f. 06/09/2022

Time Table

Days	Class	1	2	3	4	5	6	7	8	9	10
		9:00-10:00	10:00-10:48	10:48-11:36	11:38-12:26	12:44-1:32	1:32-2:20	2:20-3:08	3:08-3:56	3:56-4:44	4:44-5:32
Monday & Tuesday	I	IDCC Theory Biotech Lab DH						BT-A5 SS	←-----BT B6 -----→ SS + MB		
	II		←-----BT B5 -----→ MB + DH					BT-C7 DH			
	III				BT-C9 MB						
Wednesday & Thursday	I	IDCC Theory Biotech Lab DH					BT-C8 Wed: SS Thu : MB				
	II			BT-B4 Wed: DH Thu : SS							
	III						BT-C7 Wed: MB Thu: DH		←-----BT B5 -----→ DH + MB		
Friday & Saturday	I	IDCC Practical Biotech Lab DH						BT-C7 MB	←-----BT B5 -----→ SS + DH		
	II			BT-C7 SS			←-----BT B6 -----→ MB + SS				
	III			←-----BT- B6 -----→ DH + SS					BT-C9 DH		

D. Deepthi Hynal : DH Sanchari Sarkar : SS Mayuri Bhad : MB



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Course- Coordinator
Skill Based Course

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UG Department of Biotechnology

EXAMINATION NOTICE

Date: 20/02/2023

All the students enrolled for **Skill Based Course: Immunology and Immunodiagnostics** for the session 2022-23 are informed that Theory and Practical Exam of the course is scheduled on 03/03/2023. 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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Course- Coordinator
Skill Based Course

**List of the Students: Skill Based Certificate Course- Immunology &
Immunodiagnostics
(Session 2022-23)**

Sr. No.	Name of Student	Signature
1)	Adithya A. Kallattu	<i>Adithya</i>
2)	Akanksha Barde	<i>Akanksha</i>
3)	Akanksha R. Kale	<i>Akanksha</i>
4)	Arya P. Buradkar	<i>APB</i>
5)	Dibina Dinakaran	<i>Dinakaran</i>
6)	Ekta Gaikwad	<i>Gaikwad</i>
7)	Falguni Y. Jichkar	<i>Falguni</i>
8)	Gaurav Selokar	<i>Gaurav</i>
9)	Ishita Lakkewar	<i>Ishita</i>
10)	Janhavi Choudhari	<i>Janhavi</i>
11)	Janvi S. Jagtap	<i>Janvi</i>
12)	Khushbu R. Vaidya	<i>Khushbu</i>
13)	Mitali R. Jaiswal	<i>Mitali</i>
14)	Nidhi Yadav	<i>Nidhi</i>
15)	Nimisha Kalkotwar	<i>Nimisha</i>
16)	Nishita Ninave	<i>Nishita</i>
17)	Parth Gadgilwar	<i>Parth</i>
18)	Pranoti H. Jadhav	<i>Pranoti</i>
19)	Radhika P. Kokate	<i>Radhika</i>
20)	Rakhi Waratkar	<i>Rakhi</i>
21)	Reeta P. Bhawalkar	<i>Reeta</i>
22)	Sahil P. Titarmare	<i>Sahil</i>
23)	Sakshee Shahu	<i>Sakshee</i>
24)	Saloni S. Dhole	<i>Saloni</i>
25)	Snehal M. Patle	<i>Snehal</i>
26)	Sushant Nimbhorkar	<i>Sushant</i>



Deepthi

Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Certificate Course Examination, Summer- 2023

Duration: 1hr

Name of Subject: Immunology and Immunodiagnostics

Medium: English

Marks Obtained:

Max Marks: 50

Centre Name: Shri Shivaji Science College Congress Nagar, Nagpur

Date: 03/03/2023

Name of Student:

Year: B.Sc. Group :

Note:

- (1) Each question carries 2 marks**
 - (2) No negative marking**
-

- 1) Which of the following is an example of primary lymphoid organ from the given options?
 - a) Bone marrow
 - b) Spleen
 - c) Lymph node
 - d) GALT
- 2) Organ known as the 'graveyard of RBCs' is:
 - a) Liver
 - b) Spleen
 - c) Thymus
 - d) Kidney
- 3) The 'administration of vaccines' falls under which type of adaptive immunity:
 - a) Natural active immunity
 - b) Artificial passive immunity
 - c) Natural passive immunity
 - d) Artificial active immunity
- 4) Which of the following cells is responsible for humoral immunity?
 - a) NK cells
 - b) RBCs

- c) B cells
 - d) T cells
- 5) _____ Originates from myeloid progenitor of haematopoietic stem cells.
- a) Granulocytes
 - b) B cells
 - c) NK cells
 - d) T_c cells
- 6) The haematopoietic stem cells develops in which organ in adults:
- a) Pancreas
 - b) Liver
 - c) Bone marrow
 - d) Gall bladder
- 7) Cell mediated immunity involves which of the following cells?
- a) T cells
 - b) B cells
 - c) Mast cells
 - d) Basophils
- 8) The smallest unit of antigen that is capable of binding with antibodies is known as:
- a) Paratope
 - b) Epitope
 - c) Hapten
 - d) Adjuvant
- 9) The molecular weight of the compounds to be immunogenic must be a) <1000 Da
- b) 3000 Da
 - c) 2000 Da
 - d) >6000 Da
- 10) The first myeloid cell to appear at the site of any injury is:
- a) B cells
 - b) T cells
 - c) Neutrophils
 - d) NK cells
- 11) The term 'Immunologic memory' is produced in which type of immunity?
- a) Innate immunity
 - b) Adaptive immunity
 - c) Both a & b
 - d) None of these
- 12) Which of the following property is essential for a substance to be antigenic?
- a) Foreign
 - b) Natural

- c) Less complex
 - d) None of these
- 13) Antibodies are secreted by:
- a) T cells
 - b) NK cells
 - c) Plasma cells
 - d) Monocytes
- 14) The area on the antibody molecule which combines with the epitope is known as:
- a) antigenic determinant
 - b) hapten
 - c) epitope
 - d) paratope
- 15) How many antigen binding regions are present on the tip of the surface of the antibody molecule?
- a) 2
 - b) 1
 - c) 4
 - d) 0
- 16) A blood protein produced in response to and counteracting a specific antigen is known as:
- a) Antibody
 - b) Antigen
 - c) Protein
 - d) Lipids
- 17) How many numbers of light chains (L) and heavy chains (H) are present in an antibody molecule?
- a) 3L and 3H
 - b) 4L and 4H
 - c) 1L and 2H
 - d) 2L and 2H
- 18) The two types of light chain present in an immunoglobulin are:
- a) α and β
 - b) μ and β
 - c) γ and β
 - d) κ and λ
- 19) The marker present on the surface of Tc cells is:
- a) CD16
 - b) CD27
 - c) CD8
 - d) CD4
- 20) The type of immunoglobulin which is present in tears, saliva, colostrum:

- a) IgD
 - b) IgE
 - c) IgA
 - d) IgM
- 21) Which one is NOT discovered by Robert Koch?
- a) *Bacillus anthracis*
 - b) *Mycobacterium tuberculosis*
 - c) *Salmonella typhi*
 - d) *Vibrio cholera*
- 22) A cook prepares snacks from 10 people going for a picnic. 08 out of them develop severe gastroenteritis within 4-6 hours of consumption of snacks. It is likely that on investigations cook is found to be carrier of:
- a) *Salmonella typhi*
 - b) *Vibrio cholera*
 - c) *E. coli*
 - d) *Staphylococcus aureus*
- 23) Endoflagellum is present in which class of bacteria?
- a) Spirilla
 - b) Spirochetes
 - c) Bacillus
 - d) Coccus
- 24) Which of the following is a spirochete?
- a) Gonococci
 - b) Treponema
 - c) Staphylococcus
 - d) Streptococcus
- 25) Spirochete bacteria move with the help of:
- a) Pseudopodia
 - b) Axial filament
 - c) Endoflagella
 - d) Both "B" and "C"



Deepthi
Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course

UG Department of Biotechnology

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

Answer key

- 1) a) Bone marrow
- 2) b) Spleen
- 3) d) Artificial active immunity
- 4) c) B cells
- 5) a) granulocytes
- 6) c) Bone marrow
- 7) a) T cells
- 8) b) Epitope 9) d) >6000 Da
- 10) c) Neutrophils
- 11) b) Adaptive immunity
- 12) a) Foreign
- 13) c) Plasma cells
- 14) d) Paratope
- 15) a) 2
- 16) a) Antibody
- 17) d) 2L and 2H
- 18) d) κ and λ
- 19) c) CD8
- 20) c) IgA
- 21) c) *Salmonella typhi*
- 22) d) *Staphylococcus aureus*
- 23) b) Spirochetes
- 24) b) Treponema
- 25) d) Both "B" and "C"



Deepthi

Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course

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

Practical Exam Question Paper:

Subject : Immunology and Immunodiagnostics

Center : S.S.E.S. A's Science College, Nagpur

Time : 5 hrs per day

Dates : 03/03/2023

Max. Marks: 40

Q.1	To determine blood group and Rh factor of the given blood sample.	10
Q.2	To Perform Rheumatoid Arthritis (RA) Test	10
Q.4	Viva-Voce	10
Q.5	Practical Record	10
	Total Marks	40



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Skill Based Course

UG Department of Biotechnology
Skill Based Course: Immunodiagnosics (Session 2022-23)
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

<u>Skill Based Course</u>			
Course Exam Name: Immunology and Immunodiagnosics			
Name of Student: <u>Aditya Kallatu</u>		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. 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.	
Roll No.: <input type="text"/>	Session: 2022-23		
Test Date: 03/03/2023	Max. Marks: 50		
Invigilator Signature <u>Agghad</u>		Obtained Marks: <input style="width: 40px; text-align: center;" type="text" value="50"/>	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	●	○	○	○	11	○	●	○	○	21	○	○	●	○	31	○	○	○	○	41	○	○	○	○
2	○	●	○	○	12	●	○	○	○	22	○	○	○	●	32	○	○	○	○	42	○	○	○	○
3	○	○	○	●	13	○	○	●	○	23	○	●	○	○	33	○	○	○	○	43	○	○	○	○
4	○	○	●	○	14	○	○	○	●	24	○	●	○	○	34	○	○	○	○	44	○	○	○	○
5	●	○	○	○	15	●	○	○	○	25	○	○	○	●	35	○	○	○	○	45	○	○	○	○
6	○	○	●	○	16	●	○	○	○	26	○	○	○	○	36	○	○	○	○	46	○	○	○	○
7	●	○	○	○	17	○	○	○	●	27	○	○	○	○	37	○	○	○	○	47	○	○	○	○
8	○	●	○	○	18	○	○	○	●	28	○	○	○	○	38	○	○	○	○	48	○	○	○	○
9	○	○	○	●	19	○	○	●	○	29	○	○	○	○	39	○	○	○	○	49	○	○	○	○
10	○	○	●	○	20	○	○	●	○	30	○	○	○	○	40	○	○	○	○	50	○	○	○	○

UG Department of Biotechnology

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

Sr. No	Name of the Student	Marks obtained out of 50 (Theory)	Marks obtained out of 10 (Theory Internals)	Marks obtained out of 40 (Practical)	Total marks out of 100	Grade
1.	Adithya A. Kallattu	50	10	40	100	O
2.	AkankshaBarde	44	10	40	94	O
3.	Akanksha R. Kale	50	09	38	97	O
4.	Arya P. Buradkar	44	10	38	92	O
5.	Dibina Dinakaran	46	10	40	96	O
6.	Ekta Gaikwad	50	10	40	100	O
7.	Falguni Y. Jichkar	46	09	38	93	O
8.	Gaurav Selokar	44	10	38	92	O
9.	Ishita Lakkewar	42	09	40	91	O
10.	Janhavi Choudhari	46	09	38	93	O
11.	Janvi S. Jagtap	46	09	38	93	O
12.	Khushbu R. Vaidya	48	09	40	97	O
13.	Mitali R. Jaiswal	46	10	38	94	O
14.	Nidhi Yadav	42	10	40	92	O
15.	Nimisha Kalkotwar	28	09	36	73	A
16.	NishitaNinave	42	09	38	89	A+
17.	Parth Gadgilwar	36	10	40	86	A+
18.	Pranoti H. Jadhav	26	09	36	71	A
19.	Radhika P. Kokate	42	09	38	89	A+
20.	RakhiWaratkar	40	10	40	90	O
21.	Reeta P. Bhawalkar	42	10	40	92	O
22.	Sahil P. Titarmare	28	09	36	73	A
23.	SaksheeShahu	44	09	38	91	O
24.	Saloni S. Dhole	38	09	38	85	A+
25.	Snehal M. Patle	36	09	38	83	A+
26.	Sushant Nimbhorkar	50	10	40	100	O



Deepthi
Ms. D. Deepthi Hynal
Course- Coordinator
Skill Based Course



Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[Established by Government of Central Provinces Education Department by Notification No. 313 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017)]

University Skill Development Centre
(under Board of Lifelong Learning and Extension)

Certificate

No. JIA II - 01

Shri/Smt./Ku. *Adithya Kallattu* is

awarded with Certificate on successful completion of the course titled

Immunology and Immunodiagnostics in

session *2022-23* under *Jeevan Shikshan Abhiyan* conducted for

45 hours from *06/09/2022* to *14/12/2022* by the Board of Lifelong

Learning & Extension in collaboration with Department of Botany,

S.S.E.S. Amt's Science College Congress Nagar, Nagpur, 440012.

He/She has passed the Examination with *0* Grade

Total Credits Earned : 01

M. Ghore

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

P. Bulhane

Course Co-ordinator
SSES Amt's Science College
Congress Nagar, Nagpur-12

P. Phatak

Director
Board of Lifelong Learning
and Extension, RTMNU, Nagpur

UG Department of Biotechnology

Skill Based Course: Immunology and Immunodiagnostics

(Session 2022-23)

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?

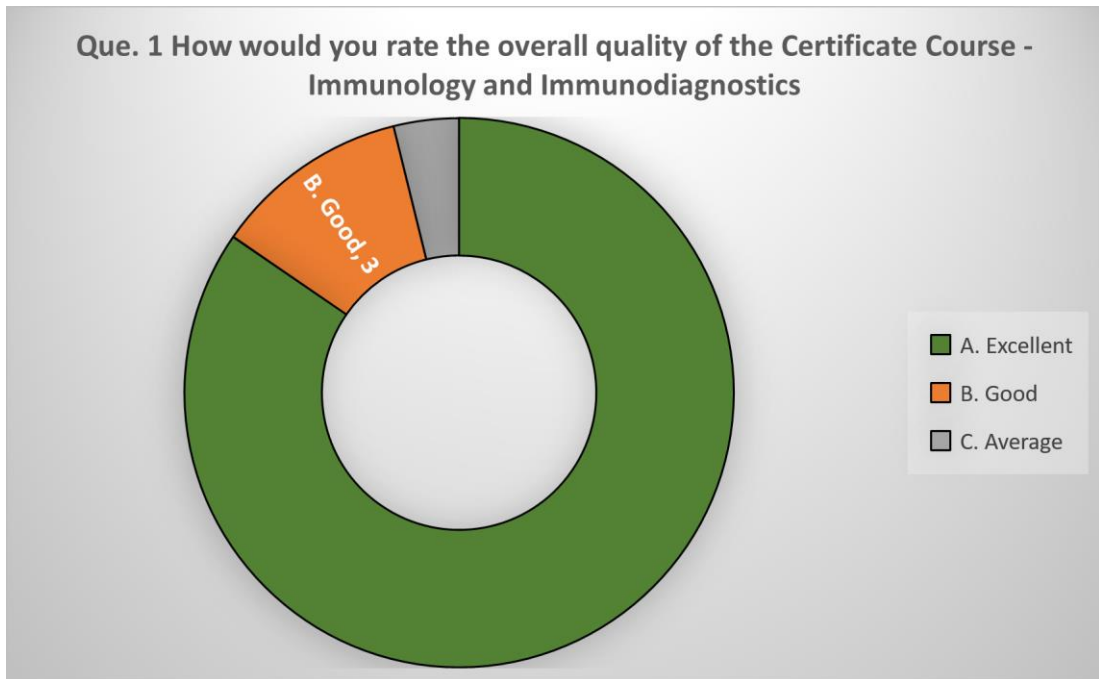
- a) Very Likely
- b) Likely
- c) Unlikely

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

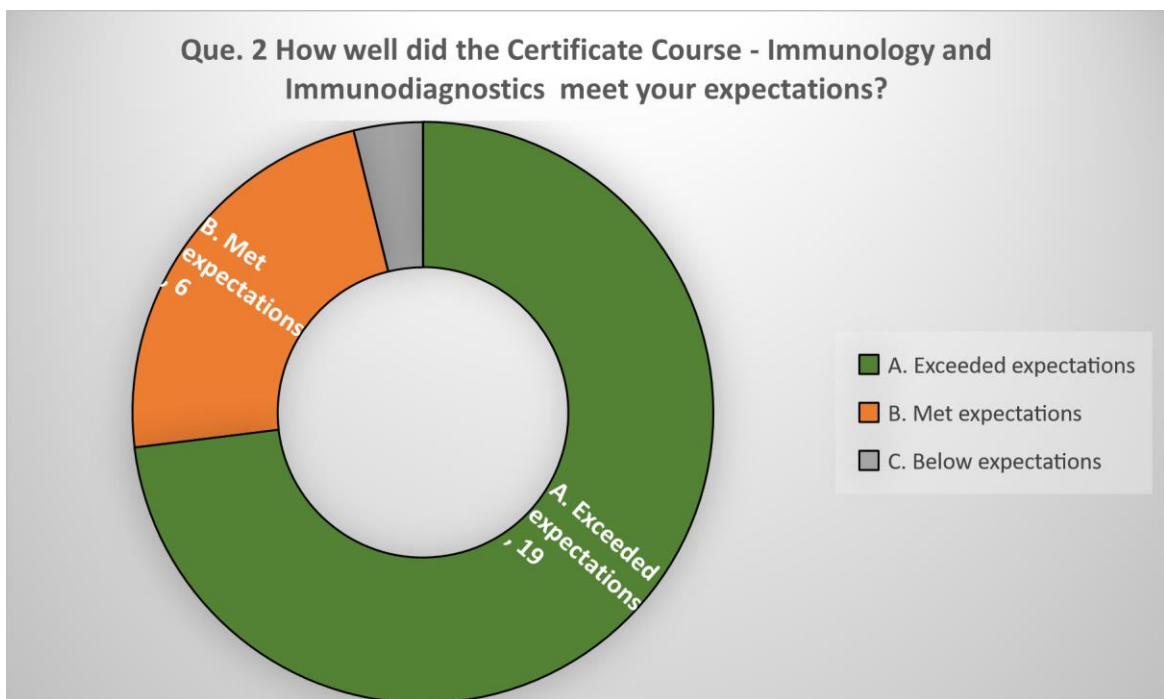
- a) Very Satisfied
- b) Satisfied
- c) Dissatisfied

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

26 responses

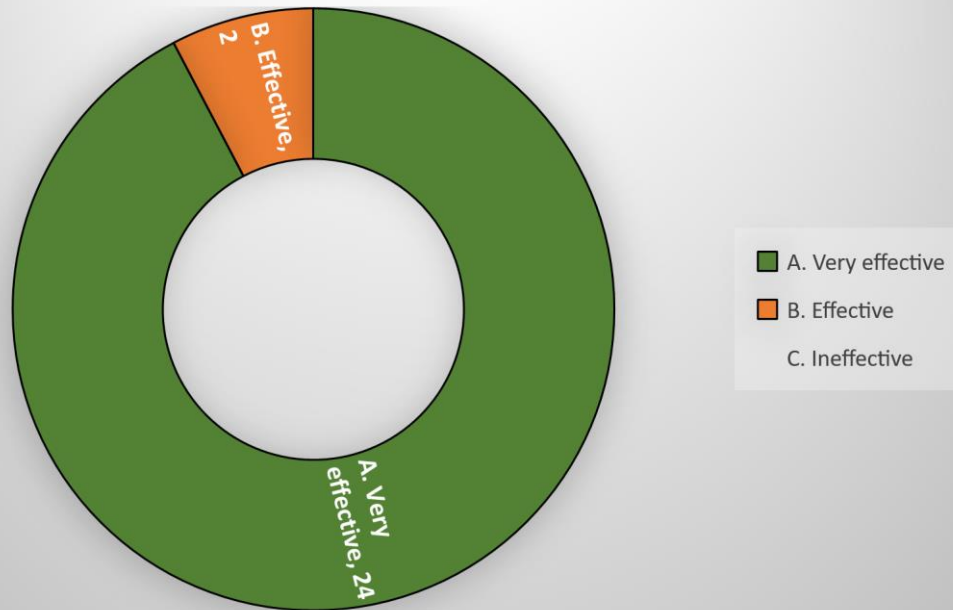


26 responses



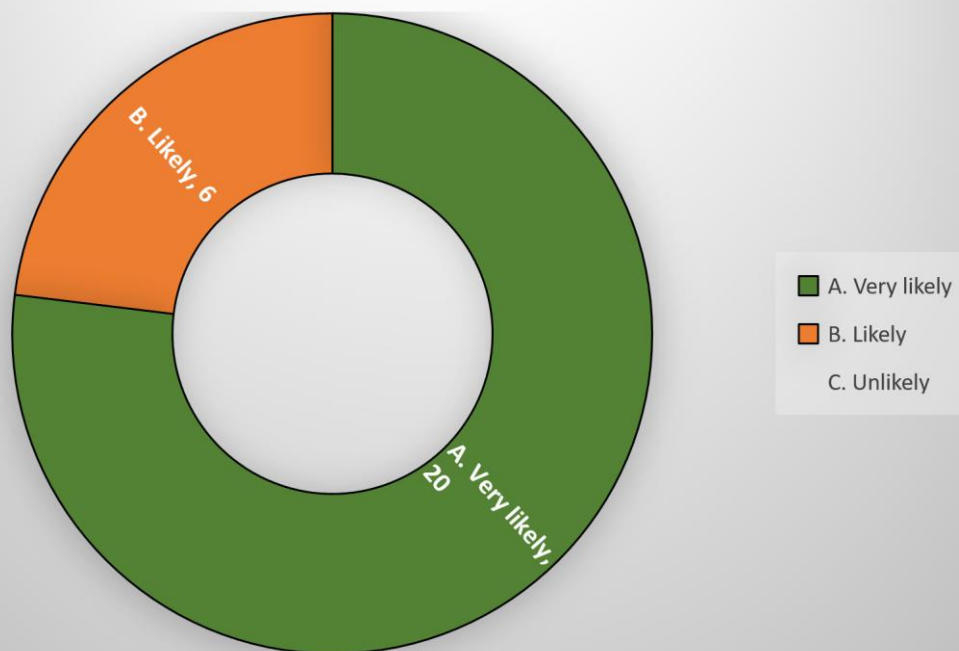
26 responses

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



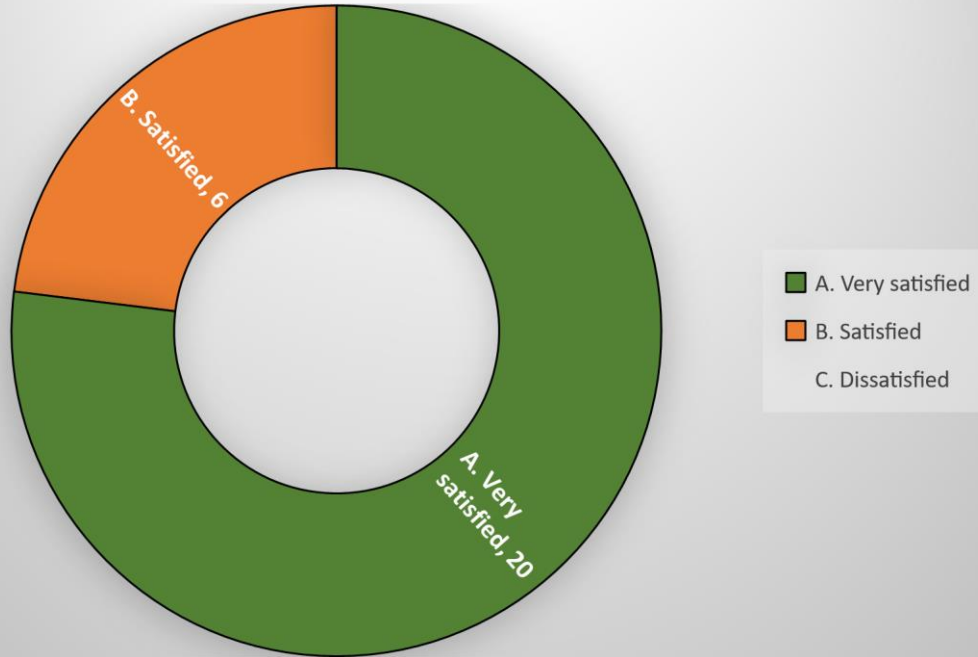
26 responses

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



26 responses

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



Ms. Deepthi Hynal
Course- Coordinator
Add on Course

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

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

