

Indapur Taluka Shikshan prasarak mandals
Arts, Science and Commerce College Indapur dist. Pune
Department of Physics
Certificate Course in Basic Electronic
Syllabus
From Academic Year 2018-19

40L

Course Objective

- To make Students learn concepts of Electronics.
- To provide sufficient fundamental knowledge to pursue advanced topic.

Course outcome: After successful completion of course, student will be able to analyse and design electronic circuit.

Unit 1 : Introduction to passive components
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10L

Resistors- colour code, classification, series and parallel combination.

Capacitor- Classification, colour code, number code, series and parallel combination.

Inductors- Classification, colour code, series and parallel combination. Circuit based on RLC- construction

2.Introduction to active Components
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10L

Transistor- terminal identification, classification, circuit based on transistor-construction

3. Electronic Devices

10L

Voltage regulators-pin diagram, circuit, working principle. D.C power supply- Introduction, classification , working with D.C power supply, Function generator. CRO- working principle.

4 Home Appliances

10L

Construction & Working of Radio, Fan, Air conditioner refrigerator

ITSPM'S

Arts, Science And Commerce College , Indapur

Department Of Physics

Notice for Student

Date-25/08/2021

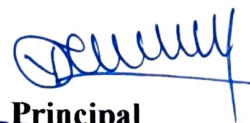
All the Student who registered their names to 'Certificate Course in Basic Electronic' are hereby informed that their lectures will be started on Thursday , 02/09/2021 in Room No. 78 at 1 pm to 2 pm. It is compulsory to attend the lectures of value added course for getting desired credit .



HOD

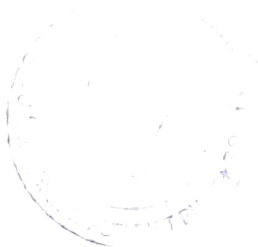
Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune



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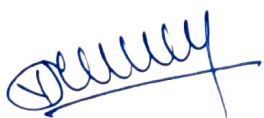
Arts, Science And Commerce College , Indapur

Department Of Physics

Notice for Student

Date-25/08/2021

All the Student who registered their names to 'Certificate Course in Basic Electronic' are hereby informed that their Practical's will be started on Saturday , 04/09/2021 in Room No.59 at 1 pm to 5 pm. It is compulsory to attend the Practical's of value added course for getting desired credit .



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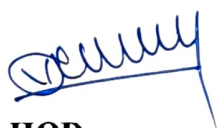
Department Of Physics

Certificate Course in Basic Electronic

2021-22

Timetable

Time	Thursday	Friday	Saturday
1 pm To 2 pm	Theory	Theory	-
1 pm To 5 Pm	-	-	Practical



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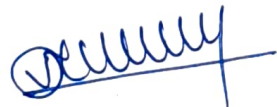


ITSPM'S**Arts, Science And Commerce College, Indapur****Department of Physics****Certificate course in Basic Electronics****List of Registered Students****Academic Year 2021-22**

Sr.No.	Roll No.	Student Name	Class
1.	3001	JAGTAP ARATI ARJUN	F.Y.B.Sc.
2.	3002	KHADE MONALI CHANGDEV	F.Y.B.Sc.
3.	3003	PAWAR SHUBHANGI SHRIKANT	F.Y.B.Sc.
4.	3004	ZAGADE TEJASHRI BALU	F.Y.B.Sc.
5.	3005	ZAGADE GAYATRI MARUTI	F.Y.B.Sc.
6.	3007	KUMBHAR RUSHIKESH PANDURANG	F.Y.B.Sc.
7.	3008	BORATE RUTUJA JALINDAR	F.Y.B.Sc.
8.	3009	BHANDWALKAR SONAM BAPU	F.Y.B.Sc.
9.	3010	ATPADKAR SHITAL VITTHAL	F.Y.B.Sc.
10.	3011	PHADATARE NIKHIL MILIND	F.Y.B.Sc.
11.	3012	PAWAR KALYANI ASHOK	F.Y.B.Sc.
12.	3013	GAIKWAD DEVIKA MAHADEV	F.Y.B.Sc.
13.	3015	BANSODE PRIYA ANNASAHEB	F.Y.B.Sc.
14.	3017	KARE SURAKSHA PARASHURAM	F.Y.B.Sc.
15.	3018	NANAWARE SHUBHAM MACHINDRA	F.Y.B.Sc.
16.	3019	MISAL MOHINI POPAT	F.Y.B.Sc.
17.	3020	BHOSALE ASHVINI SANTOSH	F.Y.B.Sc.
18.	3021	NANAVARE NIKITA MACHHINDRA	F.Y.B.Sc.
19.	3022	MANE SIDDHNATH RAJENDRA	F.Y.B.Sc.
20.	3023	SHENDE PRATIKSHA RAJARAM	F.Y.B.Sc.
21.	3024	CHAUGULE SHREYA DILIP	F.Y.B.Sc.
22.	3026	DEOKAR KOMAL SATISH	F.Y.B.Sc.
23.	3027	KAMBLE SAMADHAN KISHOR	F.Y.B.Sc.
24.	3028	DHOTRE KAJAL BALU	F.Y.B.Sc.
25.	3029	CHOPADE AMAR TANAJI	F.Y.B.Sc.
26.	3032	KHATAKE AJINKYA SUDHAKAR	F.Y.B.Sc.
27.	3033	GUTAL PRADNYA KANIFNATH	F.Y.B.Sc.
28.	3034	NALAWADE KULDIP VINOD	F.Y.B.Sc.
29.	3035	THORAT SAKSHI DADA	F.Y.B.Sc.
30.	3036	SHENDE AMRUTA BITTU	F.Y.B.Sc.
31.	3037	WAGH NEHA DHANAJI	F.Y.B.Sc.
32.	3042	RASAL SANTOSH BHIMRAO	F.Y.B.Sc.
33.	3044	SARODE PAYAL MAHADEV	F.Y.B.Sc.

34.	3045	SARADE ARCHANA HANUMANT	F.Y.B.Sc.
35.	3046	DHAVALA VANASHRI SATYAWAN	F.Y.B.Sc.
36.	3048	PAWAR VAISHNAVI HANUMANT	F.Y.B.Sc.
37.	3049	LONDHE PRATHMESH SIDDHESHWAR	F.Y.B.Sc.
38.	3050	METE AJAY LAXMAN	F.Y.B.Sc.
39.	3051	UDMALE SHRINATH SHARAD	F.Y.B.Sc.
40.	3052	CHANDANKAR ANKITA GOVARDHAN	F.Y.B.Sc.
41.	3053	SHINDE RUTUJA VIJAY	F.Y.B.Sc.
42.	3054	LAVAND NIKITA VISHVAS	F.Y.B.Sc.
43.	3055	CHAVAN RAJ RAMCHANDRA	F.Y.B.Sc.
44.	3056	PURI ANURAG DILIP	F.Y.B.Sc.
45.	3057	CHANDGUDE RUTURAJ SATISH	F.Y.B.Sc.
46.	3058	PATIL DIPALI NAGNATH	F.Y.B.Sc.
47.	3060	SURYAWANSHI SIDDHI JOTIRAM	F.Y.B.Sc.
48.	3061	JAGTAP SNEHAL LALASAHEB	F.Y.B.Sc.
49.	3062	SHAIKH ALFIYA ASLAM	F.Y.B.Sc.
50.	3063	DOLAS JAYASHRI SIDDHESHWAR	F.Y.B.Sc.
51.	3064	PISAL SHRADDHA HANUMANT	F.Y.B.Sc.
52.	3066	NALAWADE SHUBHAM YASHVANT	F.Y.B.Sc.
53.	3067	BHOSALE MADHURI NAVNATH	F.Y.B.Sc.
54.	3068	SATHE RUTUJA GANESH	F.Y.B.Sc.


Subject Teacher


H.O.D.
Head

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ITSPM'S**Arts, Science And Commerce College, Indapur****Department of Physics****Certificate course in Basic Electronics****Attendance Sheet****Academic Year 2021-22**

Sr.No.	Roll No.	Student Name	02/09	03/09	09/09	16/09	23/09	24/09
1.	3001	JAGTAP ARATI ARJUN	P	P	P	P	P	P
2.	3002	KHADE MONALI CHANGDEV	P	P	P	P	P	P
3.	3003	PAWAR SHUBHANGI SHRIKANT	P	P	P	P	P	P
4.	3004	ZAGADE TEJASHRI BALU	P	P	P	P	P	P
5.	3005	ZAGADE GAYATRI MARUTI	P	P	A	P	P	P
6.	3007	KUMBHAR RUSHIKESH PANDURANG	P	P	P	P	P	P
7.	3008	BORATE RUTUJA JALINDAR	P	P	P	P	P	P
8.	3009	BHANDWALKAR SONAM BAPU	P	A	P	P	P	P
9.	3010	ATPADKAR SHITAL VITTHAL	P	P	P	P	P	P
10.	3011	PHADATARE NIKHIL MILIND	P	P	P	P	P	P
11.	3012	PAWAR KALYANI ASHOK	P	P	P	P	A	P
12.	3013	GAIKWAD DEVIKA MAHADEV	P	P	P	P	P	P
13.	3015	BANSODE PRIYA ANNASAHEB	P	P	A	P	P	P
14.	3017	KARE SURAKSHA PARASHURAM	P	P	P	A	P	P
15.	3018	NANAWARE SHUBHAM MACHINDRA	P	P	A	P	P	P
16.	3019	MISAL MOHINI POPAT	P	A	P	P	P	P
17.	3020	BHOSALE ASHVINI SANTOSH	P	P	P	P	P	P
18.	3021	NANAVARE NIKITA MACHHINDRA	P	P	P	A	P	P
19.	3022	MANE SIDDHNATH RAJENDRA	P	P	P	P	P	P
20.	3023	SHENDE PRATIKSHA RAJARAM	P	P	P	A	P	P
21.	3024	CHAUGULE SHREYA DILIP	P	P	P	P	P	P
22.	3026	DEOKAR KOMAL SATISH	P	P	P	P	P	P
23.	3027	KAMBLE SAMADHAN KISHOR	P	P	P	P	P	P
24.	3028	DHOTRE KAJAL BALU	P	P	P	P	P	P

25.	3029	CHOPADE AMAR TANAJI	P	P	P	P	P	P
26.	3032	KHATAKE AJINKYA SUDHAKAR	P	P	P	P	P	P
27.	3033	GUTAL PRADNYA KANIFNATH	P	P	P	P	P	P
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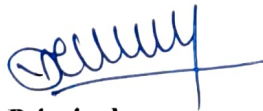
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Sr.No.	Roll No.	Student Name	30/09	01/10	07/10	08/10	14/10	22/10
1.	3001	JAGTAP ARATI ARJUN	P	P	P	P	P	P
2.	3002	KHADE MONALI CHANGDEV	P	P	P	P	P	P
3.	3003	PAWAR SHUBHANGI SHRIKANT	P	P	P	P	P	P
4.	3004	ZAGADE TEJASHRI BALU	P	P	P	P	P	P
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Academic Year 2021-22
Practical Attendance

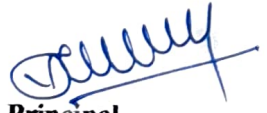
Sr.No.	Roll No.	Student Name	04/09	11/09	18/09	25/09	11/10	16/10	23/10
1.	3001	JAGTAP ARATI ARJUN	P	P	P	P	P	P	P
2.	3002	KHADE MONALI CHANGDEV	P	P	P	P	P	P	P
3.	3003	PAWAR SHUBHANGI SHRIKANT	P	P	P	P	P	P	P
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6.	3007	KUMBHAR RUSHIKESH PANDURANG	P	P	P	P	P	P	P
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10.	3011	PHADATARE NIKHIL MILIND	P	P	P	P	P	P	A
11.	3012	PAWAR KALYANI ASHOK	P	P	P	P	A	P	P
12.	3013	GAIKWAD DEVIKA MAHADEV	P	P	P	P	P	P	P
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38.	3050	METE AJAY LAXMAN	P	P	P	P	P	P	P
39.	3051	UDMALE SHRINATH SHARAD	P	P	P	P	P	P	P
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41.	3053	SHINDE RUTUJA VIJAY	P	P	P	P	P	P	P
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43.	3055	CHAVAN RAJ RAMCHANDRA	P	A	P	P	P	P	P
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45.	3057	CHANDGUDE RUTURAJ SATISH	P	P	P	P	P	P	P
46.	3058	PATIL DIPALI NAGNATH	P	P	P	P	P	P	P
47.	3060	SURYAWANSHI SIDDHI JOTIRAM	P	A	P	P	P	P	P
48.	3061	JAGTAP SNEHAL LALASAHEB	P	P	P	P	P	P	P
49.	3062	SHAIKH ALFIYA ASLAM	P	P	P	A	P	P	A
50.	3063	DOLAS JAYASHRI SIDDHESHWAR	P	P	P	A	P	P	P
51.	3064	PISAL SHRADDHA HANUMANT	P	P	P	P	P	P	P
52.	3066	NALAWADE SHUBHAM YASHVANT	P	P	A	P	P	A	P
53.	3067	BHOSALE MADHURI NAVNATH	P	P	P	P	P	P	P

54.	3068	SATHE RUTUJA GANESH	P	P	P	A	P	P	P
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Subject Teacher


H.O.D.
Head
Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune


Principal
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE



Indapur Taluka Shikshan Prasarak Mandal's,
ARTS, SCIENCE AND COMMERCE COLLEGE,
INDAPUR, DIST. PUNE

(Affiliated to Savitribai Phule Pune University, Pune)

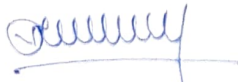


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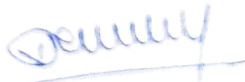
Certificate Course on Basic Electronics
(Academic Year 2021-22)

This is to certify that *Jagtap Aarti Arun* a student from F. Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Basic Electronics (4 Credits). This course is organized by Department of Physics, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 02.09.2021 to 23.10.2021


Prof. Akin Kamble
Course Coordinator


Prof. Dr. Shivaji Veer
Head Dept. of Physics


Prof. Dr. Shivaji Veer
IQAC Coordinator


Prof. Dr. Sanjay Chakane
Principal

Arts, science & Commerce College, Indapur

Value added course (2021 -22)

Title - 'Yoga Education'

ITSPM's Arts, Science & Commerce College, Indapur is committed to create an environment where students feel empowered to improve upon their learning behavior for which mere academic inputs is not enough. Going beyond it, they are provided with the training that contributes in their capacity building by motivating them to train their inner self, through emotional management, Self-understanding and positive thinking. Yoga training can help students to strengthen their potentials.

Our Institution conducts a value added course in Yoga programme for students in view with making them conscious of the importance of physical and mental wellbeing.

Course Objective

- Students can acquire knowledge and skills which will help them in developing Physical, Mental, Social and Spiritual health.
- Develop Values that will enhance the personality of the students.
- Develop Emotional Stability.
- The Course enables the future development of the students in order to achieve Occupational Wellness.
- Develop Fitness Conscious Environment in the Campus.

Program Outcomes

At the end of the course, the student will be able to :

- PO1 Focus on goals and move away from negativity.
- PO2 Explain dimensions of wellness which helps in pursuing their goals.
- PO3 Demonstrate the practices that can promote wellness.
- PO4 Plan and follow a daily routine that includes Warm-up, Yogasanas, Pranayam and Meditation.
- PO5 Demonstrate behaviours aligned to universal Human Values.
 - Before commencing with the yoga training, students will undergo pre-test where their knowledge or awareness about yoga is checked. On the basis of the outcomes of the pre-test, the programme is designed or modified to make it more need based for trainee students.
 - The modified version of the Training package is then implemented. Theory lectures & practical demonstration on yoga will be conducted by Art of Living Faculty Mr. Viresh Holkunde in collaboration with our College Gymkhana Department.
 - The content of the course include theory as well as practical demonstrations and practice of different types of pranayama and Yogasans.
 - A Complete package of 40 hours training programme (Each session 2 hrs.) in a span of 3 months is designed in collaboration with the well-known ART OF LIVING Yoga Experts with the help of Volunteers.

- It includes understanding of the concept of Yoga, theoretical and scientific basis for the Yogasans and Pranayams.

These sessions will be conducted by the trained yoga teachers.

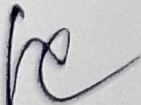
- Students will be awarded with the course completion certificate endorsed by Yoga Trainers & A.S. C. College, Indapur.

SYLLABUS

Value added course in 'Yoga Education'

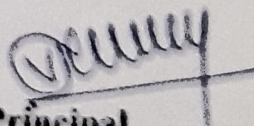
1. Introduction to Yoga.	5 Hrs.
2. Practical demonstration of Pranayama	5 Hrs.
3. Practicing Pranayama	10 Hrs.
4. Practical demonstration of Asanas	5 Hrs.
5. Practicing Asanas	10 Hrs.
6. Meditation	5 Hrs.

Total: 40 Hrs.


Course Teacher

(V. C. Holikunde)




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ITSPM's

Arts, Science And Commerce College , Indapur

STUDENT NOTICE

(Certificate Course in YOGA EDUCATION)

Date- 27/ 08/ 2021

All the Students who have registered their names for 'Certificate Course in YOGA EDUCATION' are hereby informed that, their Yoga Sessions will begin on Thursday, 02 /09 /2021

It is compulsory to attend the sessions of value added course for getting desired credit.

Venue: Room No. 66

Time : 4 to 6 pm

Course In-charge

(V. C. Holikunde)



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ARTS, SCIENCE AND
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INDAPUR-413106 DIST-PUNE

Arts, Science & Commerce College, Indapur

Value Added course in YOGA EDUCATION

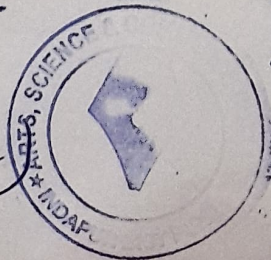
ATTENDANCE SHEET

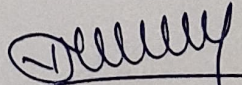
Academic Year 2021-22

(Each Session 2 Hrs.)

Sr.No.	Roll No.	Student Name	02/09	03/09	09/09	16/09	23/09	24/09
1.	3001	Jagtap Arati Arjun	P	P	P	P	P	P
2.	3002	Khade Monali Changdev	P	P	P	P	P	P
3.	3003	Pawar Shubhangi S	P	P	P	P	P	P
4.	3004	Zagade Tejashri Balu	P	P	P	P	P	P
5.	3005	Zagade Gayatri Maruti	P	P	A	P	P	P
6.	3007	Kumbhar Rushikesh P	P	P	P	P	P	P
7.	3008	Borate Rutuja Jalindar	P	P	P	P	P	P
8.	3009	Bhandwalkar Sonam B	P	A	P	P	P	P
9.	3010	Atpadkar Shital Vitthal	P	P	P	P	P	P
10.	3011	Phadatare Nikhil Milind	P	P	P	P	P	P
11.	3012	Pawar Kalyani Ashok	P	P	P	P	A	P
12.	3013	Gaikwad Devika M	P	P	P	P	P	P
13.	3015	Bansode Priya Annasaheb	P	P	A	P	P	P
14.	3017	Kare Suraksha P	P	P	P	A	P	P
15.	3018	Nanaware Shubham M	P	P	A	P	P	P
16.	3019	Misal Mohini Popat	P	A	P	P	P	P
17.	3020	Bhosale Ashvini Santosh	P	P	P	P	P	P
18.	3021	Nanavare Nikita M	P	P	P	A	P	P
19.	3022	Mane Siddhnath Rajendra	P	P	P	P	P	P
20.	3023	Shende Pratiksha Rajaram	P	P	P	A	P	P
21.	3024	Chaugule Shreya Dilip	P	P	P	P	P	P
22.	3026	Deokar Komal Satish	P	P	P	P	P	P

he
(V.C. Holkonde)




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COMMERCE COLLEGE
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23.	3027	Kamble Samadhan Kishor	P	P	P	P	P	P
24.	3028	Dhotre Kajal Balu	P	P	P	P	P	P
25.	3029	Chopade Amar Tanaji	P	P	P	P	P	P
26.	3032	Khatake Ajinkya S	P	P	P	P	P	P
27.	3033	Gutal Pradnya Kanifnath	P	P	P	P	P	P
28.	3034	Nalawade Kuldip Vinod	P	P	P	P	P	P
29.	3035	Thorat Sakshi Dada	P	P	A	P	P	P
30.	3036	Shende Amruta Bittu	P	P	P	P	P	P
31.	3037	Wagh Neha Dhanaji	P	P	P	P	P	P
32.	3042	Rasal Santosh Bhimrao	P	P	P	A	P	P
33.	3044	Sarode Payal Mahadev	P	A	P	P	P	P
34.	3045	Sarade Archana H	P	P	P	A	P	P
35.	3046	Dhavale Vanashri S	P	P	P	P	P	P
36.	3048	Pawar Vaishnavi H	P	P	A	P	P	P
37.	3049	Londhe Prathmesh S	P	P	P	P	A	P
38.	3050	Mete Ajay Laxman	P	P	P	P	P	P
39.	3051	Udmale Shrinath Sharad	P	P	P	P	P	P
40.	3052	Chandankar Ankita G	P	P	A	P	P	P
41.	3053	Shinde Rutuja Vijay	P	P	P	P	P	P
42.	3054	Lavand Nikita Vishvas	P	P	P	P	P	P

he

Subject Teacher

(V.C. Holkundale)

[Signature]

f Principal
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COMMERCE COLLEGE
 INDAPUR-413106 DIST-PUNE



Value Added course in YOGA EDUCATION

Attendance Sheet

Sr.No.	Roll No.	Student Name	30/09	01/10	07/10	08/10	14/10	22/10
1.	3001	Jagtap Arati Arjun	P	P	P	P	P	P
2.	3002	Khade Monali Changdev	P	P	P	P	P	P
3.	3003	Pawar Shubhangi Shrikant	P	P	P	P	P	P
4.	3004	Zagade Tejashri Balu	P	P	P	P	P	P
5.	3005	Zagade Gayatri Maruti	P	P	A	P	P	P
6.	3007	Kumbhar Rushikesh P	P	P	P	P	P	P
7.	3008	Borate Rutuja Jalindar	P	P	P	P	P	P
8.	3009	Bhandwalkar Sonam Bapu	P	A	P	P	P	P
9.	3010	Atpadkar Shital Vitthal	P	P	P	P	P	P
10.	3011	Phadatare Nikhil Milind	P	P	P	P	P	P
11.	3012	Pawar Kalyani Ashok	P	P	P	P	A	P
12.	3013	Gaikwad Devika Mahadev	P	P	P	P	P	P
13.	3015	Bansode Priya Annasaheb	P	P	A	P	P	P
14.	3017	Kare Suraksha Parashuram	P	P	P	A	P	P
15.	3018	Nanaware Shubham	P	P	A	P	P	P
16.	3019	Misal Mohini Popat	P	A	P	P	P	P
17.	3020	Bhosale Ashvini Santosh	P	P	P	P	P	P
18.	3021	Nanavare Nikita M	P	P	P	A	P	P
19.	3022	Mane Siddhnath Rajendra	P	P	P	P	P	P
20.	3023	Shende Pratiksha Rajaram	P	P	P	A	P	P
21.	3024	Chaugule Shreya Dilip	P	P	P	P	P	P
22.	3026	Deokar Komal Satish	P	P	P	P	P	P
23.	3027	Kamble Samadhan Kishor	P	P	P	P	P	P
24.	3028	Dhotre Kajal Balu	P	P	P	P	P	P
25.	3029	Chopade Amar Tanaji	P	P	P	P	P	P
26.	3032	Khatake Ajinkya Sudhakar	P	P	P	P	P	P
27.	3033	Gutal Pradnya Kanifnath	P	P	P	P	P	P

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(V.C. Holkund)



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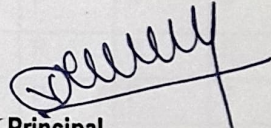
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28.	3034	Nalawade Kuldip Vinod	P	P	P	P	P	P
29.	3035	Thorat Sakshi Dada	P	P	A	P	P	P
30.	3036	Shende Amruta Bittu	P	P	P	P	P	P
31.	3037	Wagh Neha Dhanaji	P	P	P	P	P	P
32.	3042	Rasal Santosh Bhimrao	P	P	P	A	P	P
33.	3044	Sarode Payal Mahadev	P	A	P	P	P	P
34.	3045	Sarade Archana Hanumant	P	P	P	A	P	P
35.	3046	Dhavale Vanashri Satyawar	P	P	P	P	P	P
36.	3048	Pawar Vaishnavi Hanumant	P	P	A	P	P	P
37.	3049	Londhe Prathmesh S	P	P	P	P	A	P
38.	3050	Mete Ajay Laxman	P	P	P	P	P	P
39.	3051	Udmale Shrinath Sharad	P	P	P	P	P	P
40.	3052	Chandankar Ankita G	P	P	A	P	P	P
41.	3053	Shinde Rutuja Vijay	P	P	P	P	P	P
42.	3054	Lavand Nikita Vishvas	P	P	P	P	P	P

he

Subject Teacher

(V.C. Holkund)

f 
Principal

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COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

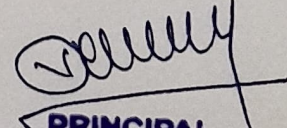


Value Added course in YOGA EDUCATION
Academic Year 2021-22

Sr.No.	Roll No.	Student Name	23/10	24/10	25/10	26/10	27/10	28/10	29/10
1.	3001	Jagtap Arati Arjun	P	P	P	P	P	P	P
2.	3002	Khade Monali C	P	P	P	P	P	P	P
3.	3003	Pawar Shubhangi S	P	P	P	P	P	P	P
4.	3004	Zagade Tejashri Balu	P	P	P	P	P	P	P
5.	3005	Zagade Gayatri Maruti	P	P	A	P	P	P	A
6.	3007	Kumbhar Rushikesh P	P	P	P	P	P	P	P
7.	3008	Borate Rutuja Jalindar	P	P	P	P	P	P	P
8.	3009	Bhandwalkar Sonam	P	A	P	P	P	P	P
9.	3010	Atpadkar Shital Vitthal	P	P	P	P	P	P	P
10.	3011	Phadatare Nikhil Milind	P	P	P	P	P	P	A
11.	3012	Pawar Kalyani Ashok	P	P	P	P	A	P	P
12.	3013	Gaikwad Devika M	P	P	P	P	P	P	P
13.	3015	Bansode Priya A	P	P	A	P	P	P	P
14.	3017	Kare Suraksha P	P	P	P	A	P	P	P
15.	3018	Nanaware Shubham M	P	P	A	P	P	P	P
16.	3019	Misal Mohini Popat	P	A	P	P	P	P	P
17.	3020	Bhosale Ashvini S	P	P	P	P	P	P	P
18.	3021	Nanavare Nikita M	P	P	P	A	P	P	P
19.	3022	Mane Siddhnath R	P	P	P	P	P	P	P
20.	3023	Shende Pratiksha R	P	P	P	A	P	P	P
21.	3024	Chaugule Shreya Dilip	P	P	P	P	P	P	P
22.	3026	Deokar Komal Satish	P	P	P	P	P	P	P
23.	3027	Kamble Samadhan	P	P	P	P	P	P	P
24.	3028	Dhotre Kajal Balu	P	P	P	P	P	P	P
25.	3029	Chopade Amar Tanaji	P	P	P	P	P	P	P
26.	3032	Khatake Ajinkya S	P	P	P	P	P	P	P
27.	3033	Gutal Pradnya Kanifnath	P	P	P	P	P	P	A
28.	3034	Nalawade Kuldip Vinod	P	P	P	P	P	P	P
29.	3035	Thorat Sakshi Dada	P	P	A	P	P	P	P
30.	3036	Shende Amruta Bittu	P	P	P	P	P	P	A

he
(V.C. Holikunde)



f 
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31.	3037	Wagh Neha Dhanaji	P	P	P	P	P	P	P
32.	3042	Rasal Santosh Bhimrao	P	P	P	A	P	P	P
33.	3044	Sarode Payal Mahadev	P	A	P	P	P	P	P
34.	3045	Sarade Archana	P	P	P	A	P	P	P
35.	3046	Dhavale Vanashri	P	P	P	P	P	P	A
36.	3048	Pawar Vaishnavi	P	P	A	P	P	P	P
37.	3049	Londhe Prathmesh	P	P	P	P	A	P	P
38.	3050	Mete Ajay Laxman	P	P	P	P	P	P	P
39.	3051	Udmale Shrinath Sharad	P	P	P	P	P	P	P
40.	3052	Chandankar Ankita	P	P	A	P	P	P	P
41.	3053	Shinde Rutuja Vijay	P	P	P	P	P	P	P
42.	3054	Lavand Nikita Vishvas	P	P	P	P	P	P	A

he

Subject Teacher

(V. C. Holkunte)

[Signature]

f Principal

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I.T.S.P.M.'s,
Arts, Science and Commerce College, Indapur
(Affiliated to Savitribai Phule Pune University, Pune)



Organized

Value Added Course in YOGA EDUCATION
(Academic Year 2021 - 22)

This is to certify that **Miss. Sarade Archana H.** from **F. Y. B.Sc.** Class has actively participated and successfully completed **Value Added Course in YOGA EDUCATION (4 Credits)**.

This course is approved by Savitribai Phule Pune University, Pune & organized by ITSPM's, Arts, Science & Commerce College, Indapur, Dist. Pune from **02/09/2021 to 29/10/2021**.

Prof. Viresh Holkunde
Course Co-ordinator

Principal

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ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413105 DIST-PUNE

ITSPM'S

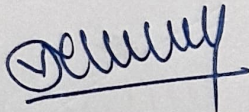
Arts, Science And Commerce College, Indapur

Department Of Physics

Notice for Student

Date-25/02/2022

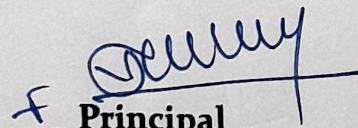
All the Student who registered their names to 'Certificate Course in Electric & Electronic instruments' are hereby informed that their lectures will be started on Thursday , 03/03/2022 in Room No. 78 at 1 pm to 2 pm. It is compulsory to attend the lectures of value added course for getting desired credit.



HOD

Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune



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ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE



ITSPM'S

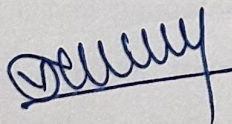
Arts, Science And Commerce College, Indapur

Department Of Physics

Notice for Student

Date-25/02/2022

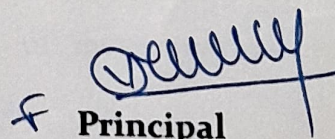
All the Student who registered their names to 'Certificate Course in Electric & Electronic instruments' are hereby informed that their Practical's will be started on Saturday, 05/03/2022 in Room No.59 at 1 pm to 5 pm. It is compulsory to attain the Practical's of value added course for getting desired credit.



HOD

Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune



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PRINCIPAL**

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Indapr Taluka Shikshan Prasarak Mandals
Arts, Science and Commerce College Indapur Dist. Pune
Department of Physics
Certificate Course in Electric and Electronic Instruments
Syllabus
From Academic Year 2021-22

Objectives of Certificate Course

1. The student should know the Instruments
2. The student should know the applications of instruments

Certificate Course Outcomes

1. Understand the concept of measurements
2. Know the different units
3. Classification of instruments
4. Applications of instruments
5. Use of instruments in day today life

Module 1. Introduction :

10 L

Measurements, fundamental and derived units, standards and their classifications, International standards, Primary standards, Secondary standards, Working standards, Current standards, Voltage standards, Resistance standards, Capacitance standards, Time and frequency standards, Methods of measurements, Direct comparison methods, Indirect comparison methods.

Module 2. Classifications of Instruments :

10 L

Absolute and Secondary Instruments, Analog and Digital Instruments, Mechanical, Electrical and Electronics Instruments,

Module 3. Electrical Instruments:

10 L

Working Principle, Block Diagram, Applications of following instruments. Fan, Transformer, CRO, Refrigerator, Air Conditioner, Signal Generator.

Module 4. Electronic Instruments:

10 L

Working Principle, Block Diagram, Applications of following instruments. Radio, Mobile, Digital Watch, Digital Board.

References:

1 Electrical And Electronic Measurements And Instrumentation, R. K Rajput, S Chand

2 Basic Electronics, by Theraja, S. Chand



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Arts, Science And Commerce College, Indapur

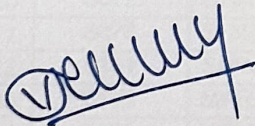
Department Of Physics

Certificate Course in Electric & Electronic Instruments

2021-22

Timetable

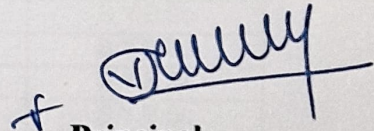
Time	Thursday	Friday	Saturday
1 pm To 2 pm	Theory	Theory	-
1 pm To 5 Pm	-	-	Practical



HOD

Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune



Principal

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COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE



ITSPM'S
Arts, Science And Commerce College, Indapur
Department of Physics
Certificate course in Electric & Electronic Instruments
List of Registered Students
Academic Year 2021-22

Sr.No.	Roll.No.	Student Name	Class
1.	8005	BHOSALE RAJRATNA VIJAY	S.Y.B.Sc
2.	8006	BARBOLE SWARAJ NAGNATH	S.Y.B.Sc
3.	8008	KAMBALE SHAILA SIDDESHWAR	S.Y.B.Sc
4.	8013	LAVAND ASHOK GITAJI	S.Y.B.Sc
5.	8016	MANE AMRUTA RAJENDRA	S.Y.B.Sc
6.	8017	CHAVAN TUSHAR DNYANDEO	S.Y.B.Sc
7.	8019	PRATAP GANESH BHOSALE	S.Y.B.Sc
8.	8020	PAWAR ASHWINI BHAUSAHEB	S.Y.B.Sc
9.	8023	SHWETA BAPUSAHEB DEOKAR	S.Y.B.Sc
10.	8028	PATIL DHANASHRI SHASHIKANT	S.Y.B.Sc
11.	8031	BARAL SAKSHI BABAN	S.Y.B.Sc
12.	8040	CHOPADE JYOTI NAGANATH	S.Y.B.Sc
13.	8047	AMOGH AVINASH VINCHU	S.Y.B.Sc
14.	8056	MALI NIKITA NAVNATH	S.Y.B.Sc
15.	8057	MOMIN MUSKAN AFSAR	S.Y.B.Sc
16.	8060	PRAJAKTA KALIDAS MARKAD	S.Y.B.Sc
17.	8064	KIRKAT SHAMBHU MAHADEV	S.Y.B.Sc
18.	8069	BHOSALE RUTUJA RAVINDRA	S.Y.B.Sc
19.	8070	DONGARE CHETAN DILIP	S.Y.B.Sc
20.	8072	CHAVAN NILESH SANJAY	S.Y.B.Sc
21.	8076	SHINDE AVANTIKA SANTOSH	S.Y.B.Sc
22.	8181	SHINDE RADHIKA SANJAY	S.Y.B.Sc
23.	8186	MARADE AJIT BHARAT	S.Y.B.Sc
24.	8191	KOLEKAR SUYASH RAMDAS	S.Y.B.Sc
25.	8194	RAUT VIDHYA SURESH	S.Y.B.Sc
26.	8208	JANGAM SHWETA SAURASHTRA SOMNATH	S.Y.B.Sc
27.	8210	CHAPHAKANADE NIKITA VISHWANATH	S.Y.B.Sc
28.	8211	SIDDHANATH MALSIDDHA GHADGE	S.Y.B.Sc
29.	8217	KHARAT ARCHANA JAYVANT	S.Y.B.Sc
30.	8218	VAJALE PRATIKSHA BANDU	S.Y.B.Sc
31.	8221	KALEL KIRAN CHHAGAN	S.Y.B.Sc
32.	8224	MANJULE RUPALI DNYANDEV	S.Y.B.Sc
33.	8225	DEVMANE GANESH MAHADEV	S.Y.B.Sc
34.	9182	PAWAR NIKHITA ANAND	T.Y.B.Sc.
35.	9192	SHINDE ARPITA RAJENDRA	T.Y.B.Sc
36.	9003	GARAD MADHURI CHARANDEV	T.Y.B.Sc

37.	9006	SHINDE SANDIP NAGNATH	T.Y.B.Sc
38.	9012	KALE PUJA ANKUSH	T.Y.B.Sc
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52.	9192	ZAGADE GORAKH ANKUSH	T.Y.B.Sc

[Signature]

Subject Teacher

[Signature]

H.O.D

Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune

[Signature]

f Principal

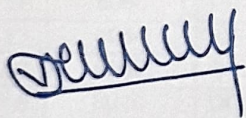
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COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

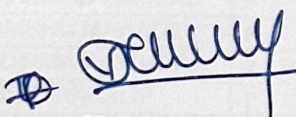


ITSPM'S
Arts, Science And Commerce College, Indapur
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Certificate course in Electric & Electronic Instruments
Attendance Sheet
Academic Year 2021-22

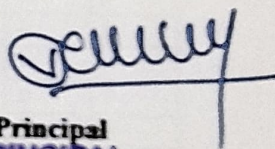
Sr.No.	Roll.No.	Student Name	03/03	04/03	10/03	11/03	17/03	24/03
1.	8005	BHOSALE RAJRATNA VIJAY	P	P	P	P	P	P
2.	8006	BARBOLE SWARAJ NAGNATH	P	P	P	P	P	P
3.	8008	KAMBALE SHAILA SIDDESHWAR	P	P	P	P	P	P
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19.	8070	DONGARE CHETAN DILIP	P	P	P	P	P	P
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28.	8211	SIDDHANATH MALSIDDHA GHADGE	P	P	P	P	P	P
29.	8217	KHARAT ARCHANA JAYVANT	P	P	P	P	P	P
30.	8218	VAJALE PRATIKSHA BANDU	P	P	A	P	P	P
31.	8221	KALEL KIRAN CHHAGAN	P	P	P	P	P	P
32.	8224	MANJULE RUPALI DNYANDEV	P	P	P	P	P	P
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35.	9192	SHINDE ARPITA RAJENDRA	P	P	A	P	P	P
36.	9003	GARAD MADHURI CHARANDEV	P	P	P	P	P	A
37.	9006	SHINDE SANDIP NAGNATH	P	P	P	P	P	P
38.	9012	KALE PUJA ANKUSH	P	P	P	P	P	P
39.	9014	JAGTAP SUPRIYA BALASAHEB	P	P	P	P	P	P
40.	9025	SHINDE KOMAL BHANUDAS	P	A	P	P	P	P
41.	9034	VIPAT KOMAL DATTU	P	P	P	P	P	P
42.	9039	LAVAND KISHOR POPAT	P	P	P	P	P	P
43.	9043	KULKARNI SAKSHI NANDKISHOR	P	P	A	P	P	A
44.	9053	BHARANE POOJA DADA	P	P	P	P	P	P
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46.	9055	GAWADE PRATIKSHA SANTOSH	P	P	P	P	P	P
47.	9056	GHADAGE DHANASHREE ANKUSH	P	P	P	P	P	P
48.	9057	SHENDE SHWETA SATISH	P	P	A	P	P	P
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51.	9182	KANCHE POOJA BAPU	P	A	P	P	P	P
52.	9192	ZAGADE GORAKH ANKUSH	P	P	P	A	P	P


Subject Teacher


H.O.D

Head
Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune


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INDAPUR-413106 DIST. PUNE



ITSPM'S
Arts, Science And Commerce College, Indapur
Department of Physics
Certificate course in Electric & Electronic Instruments
Attendance Sheet
Academic Year 2021-22

Sr.No.	Roll.No.	Student Name	25/03	31/03	01/04	07/04	08/04	21/04
1.	8005	BHOSALE RAJRATNA VIJAY	P	P	P	P	P	P
2.	8006	BARBOLE SWARAJ NAGNATH	P	P	P	P	P	P
3.	8008	KAMBALE SHAILA SIDDESHWAR	P	P	P	P	P	P
4.	8013	LAVAND ASHOK GITAJI	P	P	P	P	P	P
5.	8016	MANE AMRUTA RAJENDRA	P	P	P	P	P	P
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9.	8023	SHWETA BAPUSAHEB DEOKAR	P	P	P	P	P	P
10.	8028	PATIL DHANASHRI SHASHIKANT	P	P	A	P	P	P
11.	8031	BARAL SAKSHI BABAN	P	P	P	A	P	P
12.	8040	CHOPADE JYOTI NAGANATH	P	P	P	P	P	P
13.	8047	AMOGH AVINASH VINCHU	P	P	P	P	P	P
14.	8056	MALI NIKITA NAVNATH	P	P	P	A	P	P
15.	8057	MOMIN MUSKAN AFSAR	P	P	P	P	P	P
16.	8060	PRAJAKTA KALIDAS MARKAD	P	P	P	P	A	P
17.	8064	KIRKAT SHAMBHU MAHADEV	P	P	P	P	P	P
18.	8069	BHOSALE RUTUJA RAVINDRA	P	P	A	P	P	P
19.	8070	DONGARE CHETAN DILIP	P	P	P	P	P	P
20.	8072	CHAVAN NILESH SANJAY	P	P	P	P	P	P
21.	8076	SHINDE AVANTIKA SANTOSH	P	P	A	P	P	P
22.	8181	SHINDE RADHIKA SANJAY	P	P	P	P	P	P
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36.	9003	GARAD MADHURI	P	P	P	P	P	A

		CHARANDEV						
37.	9006	SHINDE SANDIP NAGNATH	P	P	P	P	P	P
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50.	9059	DEOKAR MADHURI BALU	P	P	P	A	P	P
51.	9182	KANCHE POOJA BAPU						
52.	9192	ZAGADE GORAKH ANKUSH						

[Signature]

Subject Teacher

[Signature]

H.O.D

Head

Department of Physics
Arts, Science & Commerce
College, Indapur, Dist. Pune

[Signature]

Principal
PRINCIPAL

**ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE**



ITSPM'S
Arts, Science And Commerce College, Indapur
Department of Physics
Certificate course in Electric & Electronic Instruments
Academic Year 2021-22
Practical Attendance

Sr.No.	Roll.No.	Student Name	05/03	12/03	19/03	26/03	02/04	09/04	23/04
1.	8005	BHOSALE RAJRATNA VIJAY	P	P	P	P	P	P	P
2.	8006	BARBOLE SWARAJ NAGNATH	P	P	P	P	P	P	A
3.	8008	KAMBALE SHAILA SIDDESHWAR	P	P	P	P	P	P	P
4.	8013	LAVAND ASHOK GITAJI	P	P	P	P	P	P	P
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27.	8210	CHAPHAKANADE NIKITA VISHWANATH	P	P	P	P	P	P	P
28.	8211	SIDDHANATH MALSIDDHA GHADGE	P	P	P	P	P	P	P
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32.	8224	MANJULE RUPALI DNYANDEV	P	P	P	P	P	P	P
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37.	9006	SHINDE SANDIP NAGNATH	P	P	P	P	P	P	P
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Subject Teacher

H.O.D

Head

Department of Physics
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Principal

**ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE**





Indapur Taluka Shikshan Prasarak Mandal's,

ARTS, SCIENCE AND COMMERCE COLLEGE, INDAPUR, DIST. PUNE

(Affiliated to Savitribai Phule Pune University, Pune)



Organized

Certificate Course on Electric & Electronic Instruments (Academic Year 2021-22)

This is to certify that *Vajale Pratiksha Bandu* a student from S.Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Electric & Electronic Instruments (4 Credits). This course is organized by Department of Physics, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 03.03.2022 to 23.04.2022

Prof. Dr. Shivaji Veer
Course Coordinator

Prof. Dr. Shivaji Veer
Head Dept. of Physics

Prof. Dr. Shivaji Veer
IQAC Co-ordinator

Prof. Dr. Sanjay Chakane
Principal

2021-22

**ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR,
DIST- PUNE**

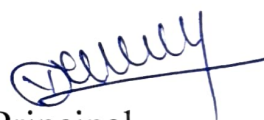
STUDENTS NOTICE

Date: 01/12 /2021

All the students of T.Y.B.Sc. those who have taken admission to the value added course “ **Milk sampling and its analysis**” are hereby informed that , their regular theory and practicals will be conducted from 25/11/2021 to 04 Dec.2021. Attendance of all students is compulsory.


Dr. Bhosale R.R.
(Course Incharge)


Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapue, Dist. Pune


Principal
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE



ARTS, SCIENCE AND COMMERCE COLLEGE, INDAPUR

DEPARTMENT OF CHEMISTRY

Value Added Course: Milk Sampling and Its Analysis

(Course Credit: 04)

2021-22

Sr.No.	Name of the Topics	Number of Lectures
1	Introduction	02
2	Common Dairy Processes	08
3	Milk proteins, Carbohydrates and Vitamins , Milk Products	10
4	Detection of Preservatives & Adulterants, Physicochemical parameters in Milk Sample (Practicals)	20

Chapter I – Introduction

02

Definition, constituents of milk of different species such as cow, buffalo, goat, etc., Chemical composition of milk of Indian breed and foreign breeds of cow, factor affecting composition of milk, characteristics of milk of different mammals,

Chapter 2- Common Dairy Processes

08

Physicochemical properties of milk, acidity, pH, density, specific gravity, color and flavor of milk, food and nutritive value of milk. Microbiology of milk, growth of microorganism, stages of growth, product of microbial growth, destruction of microorganisms growth. Cream separation- Basic principles, gravity creaming water dilution and centrifugal creaming method, construction of centrifugal separator, factors affecting percentage of fat, speed of machine, temp. of milk, rate of inflow amount of flushing water formation of separator slime Pasteurization of milk, flow sheet diagram, process receiving milk, preheating filtration, clarification, cooling and storage raw milk, standardization, pasteurization, homogenization, packing and storage, uses of milk.

Chapter 3-Milk proteins, Carbohydrates and Vitamins

10

Milk proteins- importance of proteins found in the milk-casein, albumin and globulin, composition, nomenclature, properties and uses. , Carbohydrates- importance of lactose,

classification, properties, nutritive value of lactose use of lactose. ,Vitamins- importance, definition, properties nutritive value of vitamins, Vit-A, Vit-B, B2, B6, B12, Vit-C (Ascorbic acid) & Vitamin-D. ,Food and nutritive value of milk, milk & public health.

Chapter V- Practicals

20

Detection of Common preservatives and Adulterants in milk , Various modes of Adulteration and their detection such as skimming, addition of separated milk, skim milk, added water, Starch and cane sugar. Determination of physicochemical parameters in milk samples.

Learning Objectives:

The students are expected to study

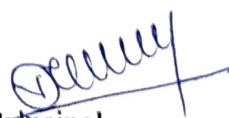
1. Knowing importance of the subject from the point of rural economy.
2. Knowing the composition of milk, its food & nutritive value
3. Understanding the Microbiology of the milk
4. Understanding various preservation and adulterants, various milk proteins and their role for the human body.
5. Knowing various milk products, their composition, manufacture and uses.

References:

- 1: Qutline of Dairy Technology- Oxfoed University press By- Sukumar De. (Edition-1983)
- 2: Dairy Chemistry and Animal Nutrition- M.M. Rai, Kalyani, Publishers, New Delhi 3rd Edition, 1980
- 3: Fundamentals of Dairy Chemistry- B.H. Webb, A.H. Hohsson, J.A. Alford, CBB Publishers and Distributors.
- 4: Milk and Milk Products- C.H. Eckles, H. Macy, Tata McGraw Hikk Publishing Company Ltd.
- 5: Chemistry and Testing of Dairy Products- H.V. Athertion, J.A. New Lander, CBS, Publishers and Distributors.


Dr. Bhosale R.R.
(Course Incharge)


Dr. Bhore J.B.
Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapue, Dist. Pune


Principal
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of Add-On Course : Milk Sampling and Its Analysis

Time Table Value Added Course (Theory) 2021-22

Date	Time	Name of Faculty	Sign.
25/11/2021	2.00 - 3.00	Dr.Bhosale R.R.	
	3.00 - 4.00	Prof. Patil M.P.	
	4.00 - 5.00	Prof. Mane U.L.	
26/11/2021	2.00 - 3.00	Dr.Bhosale R.R.	
	3.00 - 4.00	Prof. Patil M.P.	
	4.00 - 5.00	Prof. Mane U.L.	
27/11/2021	2.00 - 3.00	Dr.Bhosale R.R.	
	3.00 - 4.00	Prof. Patil M.P.	
	4.00 - 5.00	Prof. Mane U.L.	
28/11/2021	2.00 - 3.00	Dr.Bhosale R.R.	
	3.00 - 4.00	Prof. Patil M.P.	
	4.00 - 5.00	Prof. Mane U.L.	
29/11/2021	2.00 - 3.00	Dr.Bhosale R.R.	
	3.00 - 4.00	Prof. Patil M.P.	
	4.00 - 5.00	Prof. Mane U.L.	

(Practicals)

Date	Time	Name of Faculty	Sign.
30/11/2021	2.00 - 6.00	Dr.Bhosale R.R.	
01/12/2021	2.00 - 6.00	Prof. Patil M.P.	
02/12/2021	2.00 - 6.00	Prof. Mane U.L.	
03/12/2021	2.00 - 6.00	Dr.Bhosale R.R.	
04/12/2021	2.00 - 6.00	Prof. Patil M.P.	

Dr. Bhosale R.R.
(Course Incharge)

Dr. Bhore J.B
Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapur, Dist. Pune

Principal
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE



Name of Course : Milk Sampling and Its Analysis

Name of Course : Milk Sampling and Its Analysis

[illegible]

LIST OF ADMITTED STUDENTS

Name of Course : Milk Sampling and Its Analysis

Sr.No	Roll N	Name of Students	25/11	26/11	27/11	28/11	29/11	30/11	01/12	02/12	03/12	04/12
18	9028	KARANDE LAHU BALASAHEB	A	P	P	P	P	P	P	P	P	A
19	9030	KHADE SHUBHAM SUNIL	P	P	P	P	A	P	P	P	P	P
20	9031	SHAIKH SAIRAJ CHAND	P	P	A	P	P	P	P	A	P	P
21	9032	PADULE GAURI CHANGDEV	P	P	P	P	P	P	P	P	P	A
22	9033	THOMBARE DHANASHRI SHANKAR	A	P	P	P	A	P	P	P	P	P
23	9037	MULIK RUTUJA MAHADEV	P	P	P	P	P	A	P	P	P	P
24	9038	MORE SAMADHAN DATTU	P	P	A	P	P	P	P	P	P	P
25	9041	JADHAV UDAY VIJAY	P	P	P	P	P	P	A	P	P	P
26	9042	INGVALE ARATI VITTHAL	A	P	P	P	P	P	P	A	P	P
27	9044	SHINDE AVINASH HARIDAS	P	P	P	P	P	P	P	P	A	P
28	9045	MENGADE GAURI GANESH	P	A	P	P	P	P	P	P	P	P
29	9047	KALE RUTUJA KAKASO	P	P	P	P	P	P	P	P	P	A
30	9050	PADULE SNEHAL SHIVAJI	P	P	P	A	P	P	P	P	P	P
31	9051	KUMBHAR ABHIJEET MADH	P	P	P	P	P	A	P	P	P	P
32	9061	JADHAV ROHINI SAURABH	P	A	P	P	A	P	P	P	P	P
33	9063	JAGTAP TEJAS MAHADEV	P	P	A	P	A	P	P	A	P	P
34	9064	SHIRSAT NIKHIL SAMPAT	P	P	P	A	P	A	P	P	P	A

LIST OF ADMITTED STUDENTS

Name of Course : Milk Sampling and Its Analysis

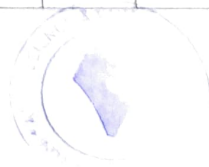
Sr.No	Roll N	Name of Students	25/11	26/11	27/11	28/11	29/11	30/11	01/12	02/12	03/12	04/12
35	9065	LAVAND NIKITA NARAYAN	P	P	P	P	P	P	P	P	P	P
36	9067	AVACHAR ANAND VISHNU	P	P	P	P	P	P	P	P	P	P
37	9069	TONPE TRUPTI SHRIMANT	P	P	P	P	P	P	P	P	P	P
38	9070	NALAWADE HARSHADA RAMESH	P	A	P	P	P	P	A	P	P	P
39	9072	RUTUJA MAHADEV MULIK	P	P	P	P	A	P	P	P	A	P
40	9181	NANAWARE SAKSHI PANDIT	P	P	P	P	P	P	P	P	P	P
41	9183	KALEL TUSHAR SUDAM	A	P	A	P	P	P	P	A	P	P
42	9184	SHINDE DIVYA BHAUSAHEB	P	P	P	P	P	P	P	P	P	P
43	9185	RAUT JAY PRAKASH	P	P	P	P	P	P	P	P	P	P
44	9188	SHAIKH SHAHNAJ DAUD	P	P	P	P	P	P	A	P	P	P
45	9189	JADHAV RAHUL MAHADEO	A	P	P	P	P	P	P	P	P	P
46	9190	SHINDE SNEHA MAHADEO	P	P	A	P	P	P	A	P	P	P
47	9191	BORATE VAISHNAVI SURESH	P	P	P	P	P	P	P	P	P	P
48	9193	KSHIRSAGAR MAHENDRA DNYANESHWAR	P	P	A	P	A	P	P	P	A	P
49	9194	JADHAV VAIBHAV KISAN	P	P	P	P	P	P	P	P	P	P
50	9196	VISHAL NARAYAN BHOI	P	P	A	P	A	P	P	A	P	P

51	9197	VYAWAHARE POONAM RAMCHANDRA	P	P	P	P	P	A	A	A	A	A
52	9198	CHORAMALE MONALI SURESH	P	P	P	P	P	P	P	P	P	P
53	9200	JADHAV AKASH BAPURAO	A	P	P	P	P	P	P	P	P	P
54	9201	BORATE PAVAN DNYANDEV	P	P	P	P	P	P	P	P	P	P
55	9202	BHONGALE MAHAVIR SUBHASH	P	P	P	P	P	P	P	P	P	P
56	9203	PATIL GAJANAN NAGNATH	P	P	P	P	P	P	P	P	P	P
57	9207	GHADAGE PATIL CHAITANYA SURYAKANT	P	P	P	P	P	P	P	P	P	P
58	9208	SADEKAR POONAM SANTOSH	P	P	P	P	P	A	A	A	A	A
59	9209	SONAWANE SANTOSH BHAUSAHEB	A	P	P	P	P	A	A	A	A	A
60	9212	BONGALE PRIYANKA DHANANJAY	P	P	P	P	P	P	P	P	P	P
61	9213	KULAKARNI ROHAN DINKAR	P	P	P	P	P	P	P	P	P	P
62	9215	GAIKWAD RAMRAJE JITENDRA	P	P	P	P	P	P	P	P	P	P
63	9216	PATIL PRAJAKTA VAMAN	P	P	P	P	P	P	P	P	P	P
64	9218	BHANDALKAR SACHIN CHANDR	A	P	P	P	P	P	P	P	P	A
66	9228	SAYYAD SULTANA HASAN	P	P	P	P	P	P	A	A	A	A
67	9230	SONAWANE JAGRUTI RAJEN	P	P	A	P	P	P	P	P	P	P
68	9233	MAKHARE SANJEET SATISH	P	P	A	P	P	A	A	A	A	A
69	9240	BHOSALE SNEHAL BAPURAO	P	P	P	P	P	P	P	P	P	P
70	9241	NAIKUDE SWAPNALI NAVAN	A	P	P	P	P	P	P	P	P	P
71	9250	SHENDAGE DIPALI BHAUS	A	A	P	P	P	A	P	P	P	P

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92	9299	ANARASE SHRIRAM MARUTI	P	P	P	P	P	A	P	P	P	P
93	9300	HEGADKAR PRAJAKTA BAPURAO	P	P	P	P	P	P	P	P	P	P
94	9361	RAUT GIRIJA HANUMANT	A	P	P	P	P	P	P	A	A	P
95	9362	BHONG ROHINI RAMESH	A	P	P	P	P	P	P	P	A	P
96	9363	MAHADIK VAIBHAV RAJKUMAR	A	P	P	P	P	A	P	P	P	P
97	9364	KAMBALE VINAYA DATTATRAY	A	P	P	P	P	P	P	P	P	A
98	9365	SARADE AMIT VITTHAL	P	A	P	P	P	P	P	P	P	P
99	9367	KHARAT SHUBHANGI RAMCHANDRA	P	P	A	P	P	P	P	P	A	P
100	9369	SHELAKH PRADIP PRAKASH	P	P	A	P	P	P	P	P	P	P
101	9371	BHONGALE SHITAL ROHIDAS	P	P	P	A	P	A	P	P	P	P
102	9372	GHADAGE MADHURI DNYANESHWAR	P	P	A	P	P	P	P	P	A	P
103	9373	GHODAKE DHANSHRI JALINDHAR	P	P	P	A	P	P	P	P	P	P
104	9374	BHAGAT ANUJ ATMARAM	A	P	P	P	P	P	P	P	P	P
105	9378	NANAVARE KAJAL MAHADEO	P	P	P	P	P	A	P	P	A	P
106	9379	GAIKWAD POOJA NAGESH	A	P	P	P	P	P	P	P	P	P
			P	P					P			P

Spady



ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR

Name of Value Added Course : Milk Sampling and Its Analysis

COURSE COMPLETION REPORT 2021-22

The Value added course “ **Milk Sampling and Its Analysis**” has conducted from 25/11/2021 to 04/12/2021 and been successfully completed. Total..... students were admitted for course. The students understand about milk, their sampling, major and minor constituents, how to take precautions about storage and handling of milk, Physical properties of different types of milk like Homogenized milk, Pasteurized milk, Standardized milk, Sterilized milk, Condensed milk, flavoured milk etc. And their manufacturing processes. Similarly students also the information about the detection of preservatives and adulterants in milk.

The milk is daily used in each home to home in society, so the course will be most useful for students. After completion of this course , certificates are distributed to all participated students.



Dr. Bhosale R.R.
(Course Incharge)



Dr. Bhore J.B
Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapue, Dist. Pune



Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur, Pune
"Value Added Course Completion Certificate "

Certificate of Appreciation

This is to certify that **Mr./Ms.SURVASE AJAY BALASAHEB, T.Y.B.Sc.** Class of Arts, Science and Commerce College, Indapur has actively participated in Add-On Course " Milk Sampling and Its Analysis" organized by Department of Chemistry on 25th Nov. 2021 to 04th Dec.2021.


Dr. Rajendra Bhosale
Course Incharge


Dr. Bhore J.B.
Head
Department of Chemistry
Arts, Science & Commerce
College, Indapur, Dist. Pune


Dr. Sanjay Chakane
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST. PUNE

SYLLABUS

Certificate course in Instrument Handling.

(Lectures 40)

Objectives

5. Develop and demonstrate depth and breadth of knowledge in chromatography
6. To Integrate and impart practical knowledge to the students and evaluate their potential
7. To teach different analytical techniques to the students
8. To enhance employability of the students by nurturing CV writing skill and interview preparation

Module 1: Spectroscopic techniques (Lectures 6)

Spectral analysis using Flame photometry, UV, Atomic Absorption, IR and GCMS.

Module 2: Chromatographic techniques (Lectures 3):

Different chromatographic techniques include, TLC, Column chromatography, Paper chromatography, HPLC, GC, Ion exchange chromatography etc.

Module 3: Solvent extraction and Volumetric analysis By different methods (Lecture3):

Extraction of samples 1) solid in liquid mixtures and 2) liquid in liquid mixtures

Module 4: Other Techniques (Lectures 3):

To teach Simple distillation, Fractional distillation, Crystallization, Sublimation

Module 5] Practical's (25 L):

6. Identifications of functional groups of the compounds by the TLC technique
7. Functional group conversion on micro scale and their purification
8. Determinations of structures of the synthesized compounds by using Flame photometry, UV, Atomic Absorption, IR and GCMS
9. Nanomaterial Synthesis and Characterizations.
10. Purification of Compounds by a) Colum chromatography b) Distillation c) Sublimation d) Recrystallization.

References:

1. Instrumental Methods of Chemical Analysis -B.K Sharma

**ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR,
DIST- PUNE**

STUDENTS NOTICE

Date: 27/12/2021

All the students of M. Sc. Chemistry those who have taken admission to the value added course “ **Instrument Handling** ” are hereby informed that, their regular theory and practical's will be conducted from 4th Jan 2022 to 17th Jan 2022 . Attendance of all students is compulsory.



(Course In charge)



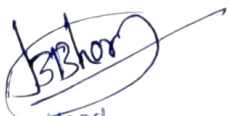
f Principal

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Arts, Science & Commerce
College, Indapur, Dist. Pune

2. Organic spectroscopy -Y.R Sharma
3. A Text book of Pharmaceutical Analysis -Kerrenth A. Connors
4. Vogel's Textbook of Qualitative Chemical Analysis -A.I. Vogel
5. Practical Pharmaceutical Chemistry -A.H. Beckett and J.B. Stenlake
6. Organic Chemistry -I. L. Finar
7. Organic spectroscopy -William Kemp
8. Basic tests for Pharmaceutical substances –WHO (1988)
9. Basic tests for Pharmaceutical substances –WHO (1991)
10. How to practice GMP's –P.P.Sharma4.The Drugs and Cosmetic Act 1940 –Vijay Malik

Program Learning Outcomes of the Certificate course in Industrial Skills

- CO-1: To understand basic chromatographic techniques
- CO-2: To know hands on experience of spectral analysis
- CO-3: To understand solvent extraction and volumetric analysis techniques
- CO-4: To learn other techniques like distillation, sublimation and crystallization of solids
- CO-5 To understand basic reactions of functional group interconver


Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapue, Dist. Pune

Name of Add-On Course : Instrument Handling

Time Table Value Added Course (Theory) 2021-22

Date	Time	Name of Faculty	Sign.
04/01/2022	2.00 - 3.00	Kharat S.D	
	3.00 - 4.00	<u>Gound K.B</u>	<u>K.B. Gound.</u>
	4.00 - 5.00	Sathe P.S	
05/01/2022	2.00 - 3.00	Kharat S.D	
	3.00 - 4.00	<u>Gound K.B</u>	<u>K.B. Gound.</u>
	4.00 - 5.00	Sathe P.S.	
06/01/2022	2.00 - 3.00	Kharat S.D.	
	3.00 - 4.00	<u>Gound K.B</u>	<u>K.B. Gound.</u>
	4.00 - 5.00	Sathe P.S	
07/01/2022	2.00 - 3.00	Kharat S.D.	
	3.00 - 4.00	<u>Gound K.B</u>	<u>K.B. Gound.</u>
	4.00 - 5.00	Sathe P.S	
08/01/2022	2.00 - 3.00	Kharat S.D	
	3.00 - 4.00	<u>Gound K.B</u>	<u>K.B. Gound.</u>
	4.00 - 5.00	Sathe P.S.	

(Practicals)

Date	Time	Name of Faculty	Sign.
10/01/2022	2.00 - 6.00	Kharat S.D	
11/01/2022	2.00 - 6.00	<u>Gound K.B.</u>	<u>K.B. Gound</u>
12/01/2022	2.00 - 6.00	Sathe P.S.	
13/01/2022	2.00 - 6.00	Kharat S.D.	
17/01/2022	2.00 - 6.00	<u>Gound K.B</u>	<u>K.B. Gound</u>

Prof. Kharat S.D.
(Course Incharge)

Dr. Bhore J.B
Head of Department

Principal

LIST OF ADMITTED STUDENTS
Name of Value Added Course: Instrument Handling 2021-22

Sr.No	Roll Nos	Name of Students
1	2201	Kalsait shivani sunil
2	2202	Khadke Sanjay Rajendra
3	2203	Sonawane Yogeshwari Bhagwan
4	2204	Gaikwad Vaishnavi Vishnu
5	2205	Masal Kajal Tukaram
6	2206	Raut Akshay Ajinath
7	2207	Bhoite Siddesh Ashok
8	2208	Dange Adesh Chandrakant
9	2209	Patil Priya Balasaheb
10	2210	Nale Sujata Bharat
11	2211	Shinde Madhuri Bhagwat
12	2212	Shaikh Nurmuhammad sultan
13	2213	Kachare Bharati Nana
14	2214	Kachare Supriya Uttam
15	2215	Gawade Shaila Dnyandev
16	2216	Pawar Aarati Tukaram
17	2217	Inamdar Virija Vivek
18	2218	Bhoite Adarsh Tanaji
19	2219	Bhosale Abhijit ajinath
20	2220	Papale Varsha Hanumant
21	2221	Pawar Vijay Gorakh
22	2222	Navale Shubhangi Dattatray
23	2223	Phalphale Rohan Kisan
24	2224	Shelke Shivani Dipak
25	2250	Bande Seema Bhau
26	2251	Shinde Chandarani Ashok
27	2252	Dargude Yogesh Lahu
28	2253	Sarade Madhuri Uttreshwar
29	2254	Gaikwad Reshma Rajendra
30	2255	Galande Amar Shrikrushna
31	2256	Duchal Vishal Nandu
32	2257	Jadhav Kranti Kisan
33	2258	Jadhav Pooja Popat
34	2259	Deokar Monali Mahadev
35	2260	Jadhav Sarika Popat
36	2261	Jagdale Pooja kalyan
37	2262	Kadam Pratik vijay
38	2263	Katkar Sanyukta Tanaji
39	2264	Chavan Trupti Bhagwat
40	2265	Shirasat Avinash Sanjay
41	2266	Magar Ashitosh Chandrakant
42	2267	Jadhav Anand Suhas

LIST OF ADMITTED STUDENTS
Name of Value Added Course: Instrument Handling 2021-22

43	2268	Pawar Saurabh Arun
44	2269	Pawar Dnyandeve Ekanth
45	2270	Waghmode Samadhan Nivrutti
46	2271	Khartode Shubham Dattatray
47	2272	Wayak Nikhil rajendra
48	2273	Bagal, Rahul Jaywant
49	2274	Shende shubhda laxman
50	2275	Bhujbal Nikita Ashok
51	2276	Kokate Rupali Hanumant
52	2301	Bhosale Akshay Ankush
53	2302	Navale Samruddhi Mohan
54	2303	Shingade Aarti Santosh
55	2304	Kodag Madhuri Dattatray
56	2305	Raut Apeksha Uddhav
57	2306	Dhotre Rohit Sundar
58	2307	Gaikwad Sneha santosh
59	2308	Tarange Sonali Rupchand
60	2309	Bhagwat Vikram Mahadev
61	2310	Meher Onkar Jambuvant
62	2311	sabale Saurabh shashikant
63	2312	Khote Pratiksha Suresh
64	2313	Shinde Dipti Ravindra
65	2314	Kumbhar Amol nanaso
66	2315	Ruturaj Jaywant Lawand
67	2316	Tarange Jagdish shahaji
68	2317	Solankar Suraj Balaso
69	2318	Markad Gitisha Ramesh
70	2319	Raut Ravindra Bharat
71	2320	Kopankar Hanumant Rajendra
72	2321	wagh aniket Bharat
73	2322	Dhaygude Rushikesh Kisan
74	2323	Kadam Sandip mohan
75	2324	Borate Pratiksha Dipak
76	2325	Sarade Snehal ambadas
77	2326	Mane Komal Pandurang
78	2701	Sadekar Harshwardhan Sanjay
79	2702	Shejal Pratiksha shivaji
80	2703	Patil sagar janardhan
81	2704	Sutar Pratiksha Somnath
82	2705	Bhujbal Aniket Maruti
83	2706	Ahivale Santosh Vitthal
84	2707	Deshmukh Mayuri Netaji
85	2708	Kharat Hanumant namdev
86	2709	Bansode Monali Balu
87	2710	Shitsat Ganesh Sopan

LIST OF ADMITTED STUDENTS
Name of Value Added Course: Instrument Handling 2021-22

88	2711	Dhobale Payal Bharat
89	2712	Pawar Rutuja ankush
90	2713	Raskar Nikhil Hanumant
91	2714	Pondkule Ranjit Dilip
92	2715	Boravkar Aboli Bandu
93	2716	Bhujbal Shubhangi Balasaheb
94	2717	Hake Ankita mahadev
95	2718	Godase Sapana Rajendra
96	2719	Gawade Amruta Sudhakar
97	2720	Patil Puja Khanderao
98	2721	Chavan Prashant Mahadev
99	2723	Sutar Mauli Hanumant
100	2724	Kadale Pooja Balasaheb
101	2725	Pawar Vijay Ramdas
102	2726	Khare Revannath Navnath

Name of Value-Added Course: Instrument handling

[illegible]

LIST OF ADMITTED STUDENTS

Name of Value-Added Course: Instrument handling

[illegible]

LIST OF ADMITTED STUDENTS

Name of Value-Added Course: Instrument handling

Sr.No	Roll Nos	Name of Students	4/01	5/01	6/01	7/01	8/01	10/01	11/01	12/01	13/01	17/01
36	2261	Jagadale Pooja kalyan	A	P	P	P	P	P	P	P	P	P
37	2262	Kadam Pratik vijay	P	A	P	P	P	P	P	P	P	P
38	2263	Katkar Sanyukta Tanaji	P	P	A	P	P	P	P	P	P	P
39	2264	Chavan Trupti Bhagwat	P	P	P	A	P	P	P	P	P	P
40	2265	Shirasat Avinash Sanjay	P	P	P	P	A	P	P	P	P	P
41	2266	Magar Ashitosh Chandrakant	P	P	P	P	P	A	P	P	P	P
42	2267	Jadhav Anand Suhas	P	P	P	P	P	P	A	P	P	P
43	2268	Pawar Saurabh Arun	P	P	P	P	P	P	P	A	P	P
44	2269	Pawar Dnyandeve Ekanth	P	P	P	P	P	P	P	P	A	P
45	2270	Waghmode Samadhan Nivrutti	P	P	P	P	P	P	P	P	P	A
46	2271	Khartode Shubham Dattatray	A	P	P	P	P	P	P	P	P	P
47	2272	Wayak Nikhil rajendra	P	A	P	P	P	P	P	P	P	P
48	2273	Bagal Rahul Jaywant	P	P	A	P	P	P	P	P	P	P
49	2274	Shende shubhda laxman	P	P	P	A	P	P	P	P	P	P
50	2275	Bhujbal Nikita Ashok	P	P	P	P	A	P	P	P	P	P
51	2276	Kokate Rupali Hanumant	P	P	P	P	P	A	P	P	P	P
52	2301	Bhosale Akshay Ankush	P	P	P	P	P	P	A	P	P	P

LIST OF ADMITTED STUDENTS

Name of Value-Added Course: Instrument handling

Sr.No	Roll Nos	Name of Students	4/01	5/01	6/01	7/01	8/01	10/01	11/01	12/01	13/01	17/01
53	2302	Navale Samruddhi Mohan	A	P	P	P	P	P	P	P	P	P
54	2303	Shingade Aarti Santosh	P	A	P	P	P	P	P	P	P	P
55	2304	Kodag Madhuri Dattatray	P	P	A	P	P	P	P	P	P	P
56	2305	Raut Apeksha Uddhav	P	P	P	A	P	P	P	P	P	P
57	2306	Dhotre Rohit Sundar	P	P	P	P	A	P	P	P	P	P
58	2307	Gaikwad Sneha santosh	P	P	P	P	P	A	P	P	P	P
59	2308	Tarange Sonali Rupchand	P	P	P	P	P	P	A	P	P	P
60	2309	Bhagwat Vikram Mahadev	P	P	P	P	P	P	P	A	P	P
61	2310	Meher Onkar Jambuvant	P	P	P	P	P	P	P	P	A	P
62	2311	sabale Saurabh shashikant	P	P	P	P	P	P	P	P	P	A
63	2312	Khote Pratiksha Suresh	A	P	P	P	P	P	P	P	P	P
64	2313	Shinde Dipti Ravindra	P	A	P	P	P	P	P	P	P	P
65	2314	Kumbhar Amol nanaso	P	P	A	P	P	P	P	P	P	P
66	2315	Ruturaj Jaywant Lawand	P	P	P	A	P	P	P	P	P	P
67	2316	Tarange Jagdish shahaji	P	P	P	P	A	P	P	P	P	P
68	2317	Solankar Suraj Balaso	P	P	P	P	P	A	P	P	P	P
69	2318	Markad Gitisha Ramesh	P	P	P	P	P	P	A	P	P	P

LIST OF ADMITTED STUDENTS

Name of Value-Added Course: Instrument handling

[illegible]

LIST OF ADMITTED STUDENTS

Name of Value-Added Course: Instrument handling

Sr.No	Roll Nos	Name of Students	4/01	5/01	6/01	7/01	8/01	10/01	11/01	12/01	13/01	17/01
89	2712	Pawar Rutuja ankush	A	A	P	P	P	P	P	P	P	P
90	2713	Raskar Nikhil Hanumant	P	P	A	P	P	P	P	P	P	P
91	2714	Pondkule Ranjit Dilip	P	P	P	A	P	P	P	P	P	P
92	2715	Boravkar Aboli Bandu	P	P	P	P	A	P	P	P	P	P
93	2716	Bhujbal Shubhangi Balasaheb	P	P	P	P	P	A	P	P	P	P
94	2717	Hake Ankita mahadev	P	P	P	P	P	P	A	P	P	P
95	2718	Godase Sapana Rajendra	P	P	P	P	P	P	P	A	P	P
96	2719	Gawade Amruta Sudhakar	P	P	P	P	P	P	P	P	A	P
97	2720	Patil Puja Khanderao	P	P	P	P	P	P	P	P	P	A
98	2721	Chavan Prashant Mahadev	P	P	P	P	P	P	P	P	P	A
99	2723	Sutar Mauli Hanumant	P	P	P	P	P	P	P	P	A	P
100	2724	Kadale Pooja Balasaheb	P	P	P	P	P	P	P	A	P	P
101	2725	Pawar Vijay Ramdas	P	P	P	P	P	P	A	P	P	P
102	2726	Khare Revannath Navnath	P	P	P	P	P	P	A	P	P	P

ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR

Name of Add-On Course: Instrument Handling

COURSE COMPLETION REPORT

The add-on course "Instrument Handling" has conducted from 4th Jan 2022 to 17th Jan 2022 and been successfully completed. Total 102 students were admitted for course. Students understand basic Atomic Absorption Spectroscopy, Flame Photometry, chromatographic techniques to know hands on experience of spectral analysis. To understand solvent extraction and volumetric analysis techniques. To learn other techniques like distillation, sublimation and crystallization of solids. To understand basic reactions of functional group interconversion. The industrial skill is most important in society, so the course will be most useful for students. After completion of this course, certificates are distributed to all participated students.


Dr. Shinde M.P
(Course In charge)


Dr. Bhore J.B
Head
Department Of Chemistry
Arts, Science & Commerce
College, Indapue, Dist. Pune



**Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur, Pune**



"Value Added Course Completion Certificate"

Certificate of Appreciation

This is to certify that **Mr./Ms.** _____, **M.Sc. Chemistry, Class**
of Arts, Science and Commerce College, Indapur has actively participated in Add-On Course
"Instrument Handling" organized by Department of Chemistry from 4th Jan 2022 to 17th Jan 2022

Prof. Sachin Kharat
Course Incharge

Dr. Bhore J.B.
Head, Dept. of Chemistry
Arts, Science & Commerce
Indapur, Dist. Pune

Dr. Sanjay Chakane
Principal

Indapur Taluka Shikshan Prasarak Mandals
Arts, Science and Commerce College, Indapur Dist. Pune
Department of Zoology
Certificate Course in Bird Diversity
Syllabus
From Academic Year 2021-22

- 1) Name Of the Teacher – Asst. Prof. Sonam Pushparaj Jamdade
- 2) No. of the Period required-30 hours
- 3) Number of Theory periods-12
- 4) Number of practical Period -18
- 5) Brief syllabus of the subject-
 - *Definition of diversity,habit and habitats of birds.
 - *External morphology of bird.
 - *Identification keys of Birds.
 - *Identification of Birds.
 - *How to observe birds, Equipment used to observe the bird.
 - *Nesting of Birds.
 - *Photography techniques used.

Outcome of Course-Indapur tashil has been enriched with wetland area at Bhigwan as diksal and at the bank of Ujani reservoir. The migration birds visit Indapur areas. These birds can be so that we can understand avian diversity




Dr. J. P. Sarwade
M.Sc., Ph.D., FZSI

Head
Department of Zoology
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Indapur, Dist. Pune-413106



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INDAPUR-413106 DIST-PUNE



ITSPM'S

Arts, Science and Commerce College , Indapur

Department Of Zoology

Certificate Course in Bird Diversity

2021-22

Timetable

Time	Thursday	Friday	Saturday
1 pm To 2 pm	Theory	Theory	-
1 pm To 5 Pm	-	-	Practical


HOD.
Dr. J. P. Sarwade
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INDAPUR-413105 DIST PUNE



ITSPM'S
Arts, Science and Commerce College, Indapur

Department Of Zoology

Notice

Date-20/08/2021

All the Student who registered their names to 'Certificate Course in Bird Diversity' are hereby informed that their lectures will be started on Thursday, 02/09/2021 in Room No. 78 at 1 pm to 2 pm. It is compulsory to attend the lectures of value added course for getting desired credit.



HOD

Dr. J. P. Sarwade

M.Sc., Ph.D., FZSI

Head

Department of Zoology,
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Indapur, Dist. Pune - 413106



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INDAPUR-413106 DIST-PUNE**



ITSPM'S

Arts, Science and Commerce College, Indapur

Department Of Zoology

Notice

Date-25/08/2021

All the Student who registered their names to 'Certificate Course in Bird Diversity' are hereby informed that their Practical's will be started on Saturday, 04/09/2021 in Room No.77 at 1 pm to 5 pm. It is compulsory to attend the Practical's of value added course for getting desired credit.


HOD
Dr. J. P. Sarwade
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ITSPM'S

Arts, Science And Commerce College, Indapur

Department of Zoology

Certificate course in Bird Diversity

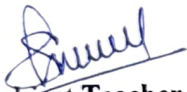
List of Registered Students

Academic Year 2021-22

Sr.No.	Roll No.	Student Name	Class
1.	8223	SHINDE DIVYA BHAUSAHEB	S.Y.B.Sc.
2.	8224	PAREKAR RAHUL SHIVAJI	S.Y.B.Sc.
3.	8225	PANDHARE AKSHAY CHANGDEO	S.Y.B.Sc.
4.	8226	KIRVE AADITI RAJENDRA	S.Y.B.Sc.
5.	8227	PAWAR PRATHMESH RAVINDRA	S.Y.B.Sc.
6.	8228	SOLANKAR SMITA BALASO	S.Y.B.Sc.
7.	8229	THOMBARE DHANASHRI SHANKAR	S.Y.B.Sc.
8.	8230	SANGAVE DHANASHRI ANKUSH	S.Y.B.Sc.
9.	8232	BORATE ADITYA LAXMAN	S.Y.B.Sc.
10.	8233	BHANDALKAR SACHIN CHANDRAKANT	S.Y.B.Sc.
11.	8234	SHINDE SONALI RAMKRISHNA	S.Y.B.Sc.
12.	8235	REDEKAR VIRAJ RAJENDRA	S.Y.B.Sc.
13.	8236	KUDALE SAKSHI GAJENDRA	S.Y.B.Sc.
14.	8237	THORE PORNIMA PRABHU	S.Y.B.Sc.
15.	8239	JADHAV SONALI DATTATRAY	S.Y.B.Sc.
16.	8240	DHAWARE RUTIK BRAMHADEV	S.Y.B.Sc.
17.	8241	PATIL GAJANAN NAGNATH	S.Y.B.Sc.
18.	8242	JADHAV RAHUL MAHADEO	S.Y.B.Sc.
19.	8243	RANAVARE TANAYA NITIN	S.Y.B.Sc.

20.	8244	DANGE DNYANESHWARI BALASAHEB	S.Y.B.Sc.
21.	8245	GARDE RUPALI RAGHU	S.Y.B.Sc.
22.	8246	SABALE POOJA DEVIDAS	S.Y.B.Sc.
23.	8247	JAVALGE RUPALI ABA	S.Y.B.Sc.
24.	8248	SHINDE SNEHA MAHADEO	S.Y.B.Sc.
25.	8249	PADULE SNEHAL SHIVAJI	S.Y.B.Sc.
26.	8250	SALUNKHE MALI SUMIT AJAY	S.Y.B.Sc.
27.	8251	DHEBE JYOTI BABAN	S.Y.B.Sc.
28.	8253	KULAKARNI ROHAN DINKAR	S.Y.B.Sc.
29.	8254	SABALE ADARSH SADHU	S.Y.B.Sc.
30.	8255	BHAGYAVANT SAMIKSHA DATTATRAY	S.Y.B.Sc.
31.	8256	PATIL PRAJAKTA VAMAN	S.Y.B.Sc.
32.	8257	DEVGUNDE POOJA BALASAHEB	S.Y.B.Sc.
33.	8258	POL PAYAL SHANKAR	S.Y.B.Sc.
34.	8259	NANAWARE PRIYANKA MACHINDRA	S.Y.B.Sc.
35.	8260	REDEKAR SHIVANI MOHAN	S.Y.B.Sc.
36.	8261	HEGADKAR PRAJAKTA BAPURAO	S.Y.B.Sc.
37.	8262	SOLAPURE SHRUTIKA RAMAKANT	S.Y.B.Sc.
38.	8263	JADHAV UDAY VIJAY	S.Y.B.Sc.
39.	8264	BAGAWALE SHITAL KANTILAL	S.Y.B.Sc.
40.	8265	DEVKATE RAVINDRA MADHUKAR	S.Y.B.Sc.
41.	8266	SHELAKHE PRADIP PRAKASH	S.Y.B.Sc.
42.	8267	RAKHUNDE SUPRIYA VINAYAK	S.Y.B.Sc.
43.	8268	BHONG ROHINI RAMESH	S.Y.B.Sc.
44.	8269	JADHAV VIKAS SUBHASH	S.Y.B.Sc.

45.	8270	GADE GORAKH DADASAHEB	S.Y.B.Sc.
46.	8271	SHENDAGE DIPALI BHAUSAHEB	S.Y.B.Sc.
47.	8272	MUNDPHANE SARAGAM UTTAM	S.Y.B.Sc.
48.	8273	GHADAGE MADHURI DNYANESHWAR	S.Y.B.Sc.
49.	8275	MOMIN ALISHA SADIK	S.Y.B.Sc.
50.	8277	CHAVAN ASMITA RAYCHAND	S.Y.B.Sc.
51.	8278	KALE PUJA ANKUSH	S.Y.B.Sc.
52.	8279	MIRKAD PRANJAL PANDURANG	S.Y.B.Sc.


Subject Teacher


Dr. J. P. Garwade
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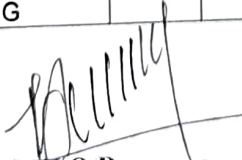


ITSPM'S**Arts, Science and Commerce College, Indapur****Department of Zoology****Certificate course in Bird Diversity****Attendance Sheet****Academic Year 2021-22**

Sr.No.	Roll No.	Student Name	02/09	03/09	09/09	16/09	23/09	24/09
1.	8223	SHINDE DIVYA BHAUSAHEB	P	P	P	P	P	P
2.	8224	PAREKAR RAHUL SHIVAJI	P	P	P	P	P	P
3.	8225	PANDHARE AKSHAY CHANGDEO	P	P	P	P	P	P
4.	8226	KIRVE AADITI RAJENDRA	P	P	P	P	P	P
5.	8227	PAWAR PRATHMESH RAVINDRA	P	P	A	P	P	P
6.	8228	SOLANKAR SMITA BALASO	P	P	P	P	P	P
7.	8229	THOMBARE DHANASHRI SHANKAR	P	P	P	P	P	P
8.	8230	SANGAVE DHANASHRI ANKUSH	P	A	P	P	P	P
9.	8232	BORATE ADITYA LAXMAN	P	P	P	P	P	P
10.	8233	BHANDALKAR SACHIN CHANDRAKANT	P	P	P	P	P	P
11.	8234	SHINDE SONALI RAMKRISHNA	P	P	P	P	A	P
12.	8235	REDEKAR VIRAJ RAJENDRA	P	P	P	P	P	P
13.	8236	KUDALE SAKSHI GAJENDRA	P	P	A	P	P	P
14.	8237	THORE PORNIMA PRABHU	P	P	P	A	P	P
15.	8239	JADHAV SONALI DATTATRAY	P	P	A	P	P	P
16.	8240	DHAWARE RUTIK BRAMHADEV	P	A	P	P	P	P
17.	8241	PATIL GAJANAN NAGNATH	P	P	P	P	P	P
18.	8242	JADHAV RAHUL MAHADEO	P	P	P	A	P	P
19.	8243	RANAVARE TANAYA NITIN	P	P	P	P	P	P
20.	8244	DANGE DNYANESHWARI BALASAHEB	P	P	P	A	P	P
21.	8245	GARDE RUPALI RAGHU	P	P	P	P	P	P
22.	8246	SABALE POOJA DEVIDAS	P	P	P	P	P	P
23.	8247	JAVALGE RUPALI ABA	P	P	P	P	P	P
24.	8248	SHINDE SNEHA MAHADEO	P	P	P	P	P	P

25.	8249	PADULE SNEHAL SHIVAJI	P	P	P	P	P	P
26.	8250	SALUNKHE MALI SUMIT AJAY	P	P	P	P	P	P
27.	8251	DHEBE JYOTI BABAN	P	P	P	P	P	P
28.	8253	KULAKARNI ROHAN DINKAR	P	P	P	P	P	P
29.	8254	SABALE ADARSH SADHU	P	P	A	P	P	P
30.	8255	BHAGYAVANT SAMIKSHA DATTATRAY	P	P	P	P	P	P
31.	8256	PATIL PRAJAKTA VAMAN	P	P	P	P	P	P
32.	8257	DEVGUNDE POOJA BALASAHEB	P	P	P	A	P	P
33.	8258	POL PAYAL SHANKAR	P	A	P	P	P	P
34.	8259	NANAWARE PRIYANKA MACHINDRA	P	P	P	A	P	P
35.	8260	REDEKAR SHIVANI MOHAN	P	P	P	P	P	P
36.	8261	HEGADKAR PRAJAKTA BAPURAO	P	P	A	P	P	P
37.	8262	SOLAPURE SHRUTIKA RAMAKANT	P	P	P	P	A	P
38.	8263	JADHAV UDAY VIJAY	P	P	P	P	P	P
39.	8264	BAGAWALE SHITAL KANTILAL	P	P	P	P	P	P
40.	8265	DEVKATE RAVINDRA MADHUKAR	P	P	A	P	P	P
41.	8266	SHELAKHE PRADIP PRAKASH	P	P	P	P	P	P
42.	8267	RAKHUNDE SUPRIYA VINAYAK	P	P	P	P	P	P
43.	8268	BHONG ROHINI RAMESH	P	A	P	P	P	P
44.	8269	JADHAV VIKAS SUBHASH	P	P	P	P	A	P
45.	8270	GADE GORAKH DADASAHEB	P	P	P	P	P	P
46.	8271	SHENDAGE DIPALI BHAUSAHEB	P	P	P	P	P	P
47.	8272	MUNDPHANE SARAGAM UTTAM	P	A	P	P	P	P
48.	8273	GHADAGE MADHURI DNYANESHWAR	P	P	P	P	P	P
49.	8275	MOMIN ALISHA SADIK	P	P	P	A	P	P
50.	8277	CHAVAN ASMITA RAYCHAND	P	P	P	P	P	P
51.	8278	KALE PUJA ANKUSH	P	P	P	P	P	P
52.	8279	MIRKAD PRANJAL PANDURANG	P	P	P	A	P	P


Subject Teacher


Dr. J. H. Surwade
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ITSPM'S

Arts, Science and Commerce College, Indapur

Department of Zoology

Certificate course in Bird Diversity

Attendance Sheet

Academic Year 2021-22

Sr.No.	Roll No.	Student Name	30/09	01/10	07/10	08/10	14/10	22/10
1.	8223	SHINDE DIVYA BHAUSAHEB	P	P	P	P	P	P
2.	8224	PAREKAR RAHUL SHIVAJI	P	P	P	P	P	P
3.	8225	PANDHARE AKSHAY CHANGDEO	P	P	P	P	P	P
4.	8226	KIRVE AADITI RAJENDRA	P	P	P	P	P	P
5.	8227	PAWAR PRATHMESH RAVINDRA	P	P	A	P	P	P
6.	8228	SOLANKAR SMITA BALASO	P	P	P	P	P	P
7.	8229	THOMBARE DHANASHRI SHANKAR	P	P	P	P	P	P
8.	8230	SANGAVE DHANASHRI ANKUSH	P	A	P	P	P	P
9.	8232	BORATE ADITYA LAXMAN	P	P	P	P	P	P
10.	8233	BHANDALKAR SACHIN CHANDRAKANT	P	P	P	P	P	P
11.	8234	SHINDE SONALI RAMKRISHNA	P	P	P	P	A	P
12.	8235	REDEKAR VIRAJ RAJENDRA	P	P	P	P	P	P
13.	8236	KUDALE SAKSHI GAJENDRA	P	P	A	P	P	P
14.	8237	THORE PORNIMA PRABHU	P	P	P	A	P	P
15.	8239	JADHAV SONALI DATTATRAY	P	P	A	P	P	P
16.	8240	DHAWARE RUTIK BRAMHADEV	P	A	P	P	P	P
17.	8241	PATIL GAJANAN NAGNATH	P	P	P	P	P	P
18.	8242	JADHAV RAHUL MAHADEO	P	P	P	A	P	P
19.	8243	RANAVARE TANAYA NITIN	P	P	P	P	P	P
20.	8244	DANGE DNYANESHWARI BALASAHEB	P	P	P	A	P	P
21.	8245	GARDE RUPALI RAGHU	P	P	P	P	P	P
22.	8246	SABALE POOJA DEVIDAS	P	P	P	P	P	P
23.	8247	JAVALGE RUPALI ABA	P	P	P	P	P	P
24.	8248	SHINDE SNEHA MAHADEO	P	P	P	P	P	P

25.	8249	PADULE SNEHAL SHIVAJI	P	P	P	P	P	P
26.	8250	SALUNKHE MALI SUMIT AJAY	P	P	P	P	P	P
27.	8251	DHEBE JYOTI BABAN	P	P	P	P	P	P
28.	8253	KULAKARNI ROHAN DINKAR	P	P	P	P	P	P
29.	8254	SABALE ADARSH SADHU	P	P	A	P	P	P
30.	8255	BHAGYAVANT SAMIKSHA DATTATRAY	P	P	P	P	P	P
31.	8256	PATIL PRAJAKTA VAMAN	P	P	P	P	P	P
32.	8257	DEVGUNDE POOJA BALASAHEB	P	P	P	A	P	P
33.	8258	POL PAYAL SHANKAR	P	A	P	P	P	P
34.	8259	NANAWARE PRIYANKA MACHINDRA	P	P	P	A	P	P
35.	8260	REDEKAR SHIVANI MOHAN	P	P	P	P	P	P
36.	8261	HEGADKAR PRAJAKTA BAPURAO	P	P	A	P	P	P
37.	8262	SOLAPURE SHRUTIKA RAMAKANT	P	P	P	P	A	P
38.	8263	JADHAV UDAY VIJAY	P	P	P	P	P	P
39.	8264	BAGAWALE SHITAL KANTILAL	P	P	P	P	P	P
40.	8265	DEVKATE RAVINDRA MADHUKAR	P	P	A	P	P	P
41.	8266	SHELAKE PRADIP PRAKASH	P	P	P	P	P	P
42.	8267	RAKHUNDE SUPRIYA VINAYAK	P	P	P	P	P	P
43.	8268	BHONG ROHINI RAMESH	P	A	P	P	P	P
44.	8269	JADHAV VIKAS SUBHASH	P	P	P	P	A	P
45.	8270	GADE GORAKH DADASAHEB	P	P	P	P	P	P
46.	8271	SHENDAGE DIPALI BHAUSAHEB	P	P	P	P	P	P
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50.	8277	CHAVAN ASMITA RAYCHAND	P	P	P	P	P	P
51.	8278	KALE PUJA ANKUSH	P	P	P	P	P	P
52.	8279	MIRKAD PRANJAL PANDURANG	P	P	P	A	P	P

[Signature]
Subject Teacher

[Signature]
H.O.D.
Dr. J. P. Sarwade
M.Sc., Ph.D., FZSI
Head
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[Signature]
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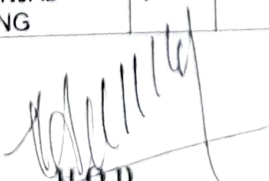


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Arts, Science and Commerce College, Indapur
Department of Zoology
Certificate course in Bird Diversity
Academic Year 2021-22
Practical Attendance

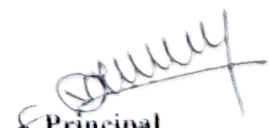
Sr.No.	Roll No.	Student Name	04/09	11/09	18/09	25/09	11/10	16/10	23/10
1.	8223	SHINDE DIVYA BHAUSAHEB	P	P	P	P	P	P	P
2.	8224	PAREKAR RAHUL SHIVAJI	P	P	P	P	P	P	P
3.	8225	PANDHARE AKSHAY CHANGDEO	P	P	P	P	P	P	P
4.	8226	KIRVE AADITI RAJENDRA	P	P	P	P	P	P	P
5.	8227	PAWAR PRATHMESH RAVINDRA	P	P	A	P	P	P	A
6.	8228	SOLANKAR SMITA BALASO	P	P	P	P	P	P	P
7.	8229	THOMBARE DHANASHRI SHANKAR	P	P	P	P	P	P	P
8.	8230	SANGAVE DHANASHRI ANKUSH	P	A	P	P	P	P	P
9.	8232	BORATE ADITYA LAXMAN	P	P	P	P	P	P	P
10.	8233	BHANDALKAR SACHIN CHANDRAKANT	P	P	P	P	P	P	A
11.	8234	SHINDE SONALI RAMKRISHNA	P	P	P	P	A	P	P
12.	8235	REDEKAR VIRAJ RAJENDRA	P	P	P	P	P	P	P
13.	8236	KUDALE SAKSHI GAJENDRA	P	P	A	P	P	P	P
14.	8237	THORE PORNIMA PRABHU	P	P	P	A	P	P	P
15.	8239	JADHAV SONALI DATTATRAY	P	P	A	P	P	P	P
16.	8240	DHAWARE RUTIK BRAMHADEV	P	A	P	P	P	P	P
17.	8241	PATIL GAJANAN NAGNATH	P	P	P	P	P	P	P
18.	8242	JADHAV RAHUL MAHADEO	P	P	P	A	P	P	P
19.	8243	RANAVARE TANAYA NITIN	P	P	P	P	P	P	P
20.	8244	DANGE DNYANESHWARI BALASAHEB	P	P	P	A	P	P	P
21.	8245	GARDE RUPALI RAGHU	P	P	P	P	P	P	P
22.	8246	SABALE POOJA DEVIDAS	P	P	P	P	P	P	P
23.	8247	JAVALGE RUPALI ABA	P	P	P	P	P	P	P
24.	8248	SHINDE SNEHA MAHADEO	P	P	P	P	P	P	P
25.	8249	PADULE SNEHAL SHIVAJI	P	P	P	P	P	P	P
26.	8250	SALUNKHE MALI SUMIT AJAY	P	P	P	P	P	P	P
27.	8251	DHEBE JYOTI BABAN	P	P	P	P	P	P	A

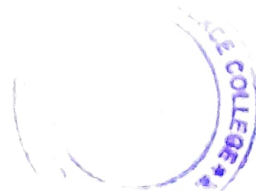
28.	8253	KULAKARNI ROHAN DINKAR	P	P	P	P	P	P	P
29.	8254	SABALE ADARSH SADHU	P	P	A	P	P	P	P
30.	8255	BHAGYAVANT SAMIKSHA DATTATRAY	P	P	P	P	P	P	A
31.	8256	PATIL PRAJAKTA VAMAN	P	P	P	P	P	P	P
32.	8257	DEVGUNDE POOJA BALASAHEB	P	P	P	A	P	P	P
33.	8258	POL PAYAL SHANKAR	P	A	P	P	P	P	P
34.	8259	NANAWARE PRIYANKA MACHINDRA	P	P	P	A	P	P	P
35.	8260	REDEKAR SHIVANI MOHAN	P	P	P	P	P	P	A
36.	8261	HEGADKAR PRAJAKTA BAPURAO	P	P	A	P	P	P	P
37.	8262	SOLAPURE SHRUTIKA RAMAKANT	P	P	P	P	A	P	P
38.	8263	JADHAV UDAY VIJAY	P	P	P	P	P	P	P
39.	8264	BAGAWALE SHITAL KANTILAL	P	P	P	P	P	P	P
40.	8265	DEVKATE RAVINDRA MADHUKAR	P	P	A	P	P	P	P
41.	8266	SHELAKE PRADIP PRAKASH	P	P	P	P	P	P	P
42.	8267	RAKHUNDE SUPRIYA VINAYAK	P	P	P	P	P	P	A
43.	8268	BHONG ROHINI RAMESH	P	A	P	P	P	P	P
44.	8269	JADHAV VIKAS SUBHASH	P	P	P	P	A	P	P
45.	8270	GADE GORAKH DADASAHEB	P	P	P	P	P	P	P
46.	8271	SHENDAGE DIPALI BHAUSAHEB	P	P	P	P	P	P	P
47.	8272	MUNDPHANE SARAGAM UTTAM	P	A	P	P	P	P	P
48.	8273	GHADAGE MADHURI DNYANESHWAR	P	P	P	P	P	P	P
49.	8275	MOMIN ALISHA SADIK	P	P	P	A	P	P	A
50.	8277	CHAVAN ASMITA RAYCHAND	P	P	P	A	P	P	P
51.	8278	KALE PUJA ANKUSH	P	P	P	P	P	P	P
52.	8279	MIRKAD PRANJAL PANDURANG	P	P	A	P	P	A	P


Subject Teacher


H.O.D.

P. D. P. Sawade
M.Sc., Ph.D., F.Z.S.
Head
Department of Zoology,
Pune & Commerce College,
Pune, Maharashtra.


Principal
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INDAPUR-413106 D. ST. PUNE



Indapur Taluka Shikshan Prasarak Mandal's,
ARTS, SCIENCE AND COMMERCE COLLEGE,
INDAPUR, DIST. PUNE

(Affiliated to Savitribai Phule Pune University, Pune)

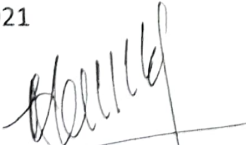


Organized

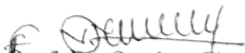
Certificate Course on Bird Diversity
(Academic Year 2021-22)

This is to certify that *Shinde Divya Bhausaheb* student from S. Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Bird Diversity (4 Credits). This course is organized by Department of Zoology, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 02.09.2021 to 23.10.2021


Asst. Prof. Sonam Jamdade
Course Coordinator


Prof. Dr. Jiwan Sarwade
Head Dept. of Zoology, FZSI

Prof. S.B. Sninde
IQAC Coordinator


Prof. Dr. Sanjay Chakane
PRINCIPAL

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ITSPM'S

Arts, Science And Commerce College , Indapur

Department Of ZOOLOGY

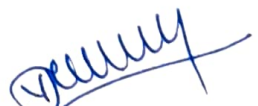
Notice for Student

Date-25/08/2021

All the Student who registered their names to 'Certificate Course in BLOOD GROUP ANALYSIS' are hereby informed that their Practical's will be started on Saturday , 04/09/2021 in Room No.59 at 1 pm to 5 pm. It is compulsory to attend the Practical's of value added course for getting desired credit .


HOD

Dr. J. P. Sawade
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ITSPM'S

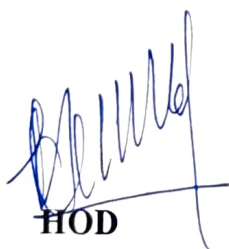
Arts, Science And Commerce College , Indapur

Department Of ZOOLOGY

Notice for Student

Date-25/08/2021

All the Student who registered their names to 'Certificate Course in BOOLD GROUP ANALYSIS' are hereby informed that their lectures will be started on Thursday , 02/09/2021 in Room No. 78 at 1 pm to 2 pm. It is compulsory to attend the lectures of value added course for getting desired credit .


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ITSPM'S

Arts, Science And Commerce College , Indapur

Department Of ZOOLOGY

Notice for Student

Date-25/08/2022

All the Student who registered their names to 'Certificate Course in BLOOD GROUP ANALYSIS' are hereby informed that their lectures will be started on Thursday , 02/09/2022 in Room No. 76 at 1 pm to 2 pm. It is compulsory to attend the lectures of value added course for getting desired credit .


HOD
Dr. J. P. Sarwade
M.Sc., Ph.D., FZSI

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ITSPM'S
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Department Of ZOOLOGY

Notice for Student

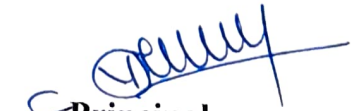
Date-25/08/2022

All the Student who registered their names to 'Certificate Course in BLOOD GROUP ANALYSIS' are hereby informed that their Practical's will be started on Saturday , 03/09/2022 in Room No.76 at 1 pm to 5 pm. It is compulsory to attend the Practical's of value added course for getting desired credit .


HOD

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ITSPM'S

Arts, Science And Commerce College , Indapur

Department Of ZOOLOGY

Certificate Course in BLOOD GROUP ANALYSIS

2021-22

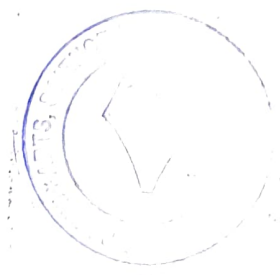
Timetable

Time	Thursday	Friday	Saturday
1 pm To 2 pm	Theory	Theory	-
1 pm To 5 Pm	-	-	Practical


HOD

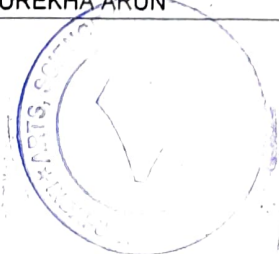
Dr. J. P. Sharma
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INDAPUR-413106 DIST-PUNE



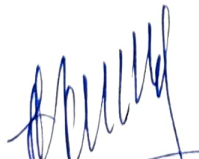
ITSPM'S
Arts, Science And Commerce College, Indapur
Department of Zoology
Certificate course in Blood group analysis
Registered Student List
Academic Year 2021-22

Sr.No	Roll No.	Name of Student	Class
1	8065	SABALE VAISHANAVI RAMCHANDRA	S,Y.Bsc
2	8066	DEOKAR SNEHAL ANIL	S,Y.Bsc
3	8067	VAIBHAV SATISH MISAL	S,Y.Bsc
4	8068	KHABALE ONKAR RAOSO	S,Y.Bsc
5	8070	DONGARE CHETAN DILIP	S,Y.Bsc
6	8071	SONAVALA VISHAL KISAN	S,Y.Bsc
7	8072	CHAVAN NILESH SANJAY	S,Y.Bsc
8	8073	DANGE SANKET BIBHISHAN	S,Y.Bsc
9	8074	DONGARE SHRAVANI BHARAT	S,Y.Bsc
10	8075	SALUNKHE ROHIT SURESH	S,Y.Bsc
11	8077	JAGTAP KOMAL TATYASAHEB	S,Y.Bsc
12	8078	SUTAR PRITI RAJENDRA	S,Y.Bsc
13	8079	KATE AJINKYA DATTATRYA	S,Y.Bsc
14	8080	KADAM PRATIK ANIL	S,Y.Bsc
15	8081	PALANGE VISHAKHA ATUL	S,Y.Bsc
16	8082	BHUJBAL VISHAKHA CHANGDEV	S,Y.Bsc
17	8182	GOPHANE ANNA MARUTI	S,Y.Bsc
18	8183	VYAWAHARE DIVYA SUNIL	S,Y.Bsc
19	8184	SHENDE NIKITA GOPAL	S,Y.Bsc
20	8185	MASKE MAYURI TANAJI	S,Y.Bsc
21	8188	SHAHANE AKSHATA BHARAT	S,Y.Bsc
22	8189	VIRKAR SUPRIYA APPA	S,Y.Bsc
23	8190	VIRKAR PRAJAKTA SANJAY	S,Y.Bsc
24	8192	JAGTAP VISHWAVIJAYA NANAJI	S,Y.Bsc
25	8193	WAGHMODE VAISHANAVI KAILIDAS	S,Y.Bsc
26	8195	SHINDE SWATI PANDURANG	S,Y.Bsc
27	8196	MULANI MUSKAN DADA	S,Y.Bsc
28	8197	BANSUDE SAKSHI ANKUSH	S,Y.Bsc
29	8198	SAURABH VIJAY KOKANE	S,Y.Bsc
30	8199	SHEWALE PRATHMESH DAMODAR	S,Y.Bsc
31	8200	TODKAR OMKAR VISHNU	S,Y.Bsc
32	8201	TODKAR SUDARSHAN NAMDEV	S,Y.Bsc
33	8202	MOTE KOMAL HANUMANT	S,Y.Bsc
34	8203	JADHAV DIPANJALI SANTOSH	S,Y.Bsc
35	8204	KUTE KALYANI RAJENDRA	S,Y.Bsc
36	8205	BHONG NIKITA DNYNADEO	S,Y.Bsc
37	8206	MARKAD ASHISH AJINATH	S,Y.Bsc
38	8207	MARKAD PRANAY NAVNATH	S,Y.Bsc
39	8209	KUCHEKAR POOJA RAJENDRA	S,Y.Bsc
40	8212	VIRKAR VASUDEV LAXMAN	S,Y.Bsc
41	8213	PONDKULE MANSI DADARAM	S,Y.Bsc
42	8214	GURAV PRASAD MARUTI	S,Y.Bsc
43	8215	PUSHKAR SANJAY MARKAD	S,Y.Bsc
44	8216	VIRKAR VIKAS BAPURAO	S,Y.Bsc
45	8217	KHARAT ARCHANA JAYVANT	S,Y.Bsc
46	8219	KAMBLE SUREKHA ARUN	S,Y.Bsc



47	8220	HEGADKAR ISHVAR BALASAHEB	S, Y.Bsc
48	8222	PATIL OMKAR DIGAMBAR	S, Y.Bsc
49	8223	KOKARE VIRAJ BALASO	S, Y.Bsc
50	8226	MAKHARE YASH VINAY	S, Y.Bsc
51	8227	SARAK RUSHANT DADA	S, Y.Bsc
52	8228	GAWADE PALLAVI MOHAN	S, Y.Bsc
53	8229	MOMIN FIRDOS MAHAMMADRAPIK	S, Y.Bsc
54	3108	NIKAM RUTURAJ BALASAHEB	S, Y.Bsc
55	3109	DEOKAR OMKAR SANTOSH	S, Y.Bsc
56	3110	SARAVADE PRATIKSHA DATTATRAY	S, Y.Bsc
57	3111	GANDHALE NIKITA JYOTIRAM	S, Y.Bsc
58	3112	SURYAWANSHI VIRAJ SANTOSH	S, Y.Bsc
59	3115	SURWASE VISHWATEJ MAHADEV	S, Y.Bsc
60	3116	GAIKWAD NITIN MANOHAR	S, Y.Bsc
61	3118	BHOGE SHRIKRUSHNA SARJERAO	S, Y.Bsc
62	3119	RAKHUNDE SHRIKANT RAMCHANDRA	S, Y.Bsc
63	3120	KAMBLE SAYALI MOHAN	S, Y.Bsc
64	3121	KUMBHAR SNEHAL BAPU	S, Y.Bsc
65	3122	VYAVAHARE PRAJAKTA BANDU	S, Y.Bsc
66	3123	MANE VISHAL VIJAY	S, Y.Bsc
67	3124	DHAWALE RUTUJA SAUDAGAR	S, Y.Bsc
68	3125	KECHE VAISHNAVI BALASAHEB	S, Y.Bsc
69	3185	KUBER POOJA DATTATRAY	S, Y.Bsc
70	3188	THORAT RUSHIKESH RAMESH	S, Y.Bsc
71	3189	DOMBE PRIYA RAJAN	S, Y.Bsc
72	3190	BANSUDE DIPALI RAMAKANT	S, Y.Bsc
73	3191	DAGADE HARSHADA DADASO	S, Y.Bsc
74	3193	HIVARKAR TRUPTI RAMDAS	S, Y.Bsc
75	3194	MARKAD SAKSHI TUKARAM	S, Y.Bsc
76	3195	KALEL DIPALI SOMANATH	S, Y.Bsc
77	3197	KALE RUSHIKESH SATISH	S, Y.Bsc
78	3199	BHONG VISHAL PANDURANG	S, Y.Bsc
79	3201	BHONG GAURAV SANJAY	S, Y.Bsc
80	3202	RAUT RANJIT RAJKUMAR	S, Y.Bsc
81	3203	GAWAND SAURABH RAMESH	F, Y.Bsc
82	3204	GUNJALE POONAM HANUMANT	F, Y.Bsc
83	3205	BHONG SNEHAL PANDURANG	F, Y.Bsc
84	3206	BHONG PAYAL SOMNATH	F, Y.Bsc
85	3207	SALGAR SALONI MARUTI	F, Y.Bsc
86	3208	BHOSALE SNEHAL ABAJI	F, Y.Bsc
87	3209	BABAR ADITYA DATTATRAY	F, Y.Bsc
88	3210	WAGHMODE KAJAL SHANKAR	F, Y.Bsc
89	3211	WAGHMODE AKSHAY VISHNU	F, Y.Bsc
90	3212	WAGHMODE PALLAVI ARJUN	F, Y.Bsc


Co-ordinator


H.O.D.

Dr. J. P. Sarwade
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ITSPM'S
Arts, Science And Commerce College, Indapur
Department of Zoology
Certificate course in Blood group analysis
Attendance Sheet
Academic Year 2021-22

Sr.No	Roll No.	Name of Student	02/09/22	03/09/22	5/09/22	6/09/22	7/09/22
1	8063	PANDHARE PRIYANKA DEVIDAS	P	P	P	P	P
2	8065	SABALE VAISHANAVI RAMCHANDRA	P	P	P	P	P
3	8066	DEOKAR SNEHAL ANIL	P	P	P	P	P
4	8067	VAIBHAV SATISH MISAL	P	P	P	P	P
5	8068	KHABALE ONKAR RAOSO	P	P	P	P	P
6	8070	DONGARE CHETAN DILIP	P	P	P	P	P
7	8071	SONAVALA VISHAL KISAN	P	P	P	P	P
8	8072	CHAVAN NILESH SANJAY	P	P	P	P	P
9	8073	DANGE SANKET BIBHISHAN	A	A	A	A	A
10	8074	DONGARE SHRAVANI BHARAT	A	A	A	A	A
11	8075	SALUNKHE ROHIT SURESH	P	P	P	P	P
12	8077	JAGTAP KOMAL TATYASAHEB	P	P	P	P	P
13	8078	SUTAR PRITI RAJENDRA	P	P	P	P	P
14	8079	KATE AJINKYA DATTATRYA	P	P	P	P	P
15	8080	KADAM PRATIK ANIL	P	P	P	P	P
16	8081	PALANGE VISHAKHA ATUL	P	P	P	P	P
17	8082	BHUJBAL VISHAKHA CHANGDEV	P	P	P	P	P
18	8182	GOPHANE ANNA MARUTI	P	P	P	P	P
19	8183	VYAWAHARE DIVYA SUNIL	P	P	P	P	P
20	8184	SHENDE NIKITA GOPAL	P	P	P	P	P
21	8185	MASKE MAYURI TANAJI	P	P	P	P	P
22	8188	SHAHANE AKSHATA BHARAT	P	P	P	P	P
23	8189	VIRKAR SUPRIYA APPA	P	P	P	P	P
24	8190	VIRKAR PRAJAKTA SANJAY	A	A	A	A	A
25	8192	JAGTAP VISHWAVIJAYA NANAJI	A	A	A	A	A
26	8193	WAGHMODE VAISHANAVI KAILIDAS	P	P	P	P	P
27	8195	SHINDE SWATI PANDURANG	P	P	P	P	P
28	8196	MULANI MUSKAN DADA	P	P	P	P	P
29	8197	BANSUDE SAKSHI ANKUSH	P	P	P	P	P
30	8198	SAURABH VIJAY KOKANE	P	P	P	P	P
31	8199	SHEWALE PRATHMESH DAMODAR	P	P	P	P	P
32	8200	TODKAR OMKAR VISHNU	P	P	P	P	P
33	8201	TODKAR SUDARSHAN NAMDEV	P	P	P	P	P
34	8202	MOTE KOMAL HANUMANT	A	A	A	A	A
35	8203	JADHAV DIPANJALI SANTOSH	P	P	P	P	P
36	8204	KUTE KALYANI RAJENDRA	P	P	P	P	P
37	8205	BHONG NIKITA DNYNADEO	P	P	P	P	P
38	8206	MARKAD ASHISH AJINATH	P	P	P	P	P
39	8207	MARKAD PRANAY NAVNATH	P	P	P	P	P
40	8209	KUCHEKAR POOJA RAJENDRA	P	P	P	P	P
41	8212	VIRKAR VASUDEV LAXMAN	P	P	P	P	P
42	8213	PONDKULE MANSI DADARAM	P	P	P	P	P
43	8214	GURAV PRASAD MARUTI	P	P	P	A	A

44	8215	PUSHKAR SANJAY MARKAD	P	P	A	A	A
45	8216	VIRKAR VIKAS BAPURAO	P	P	P	P	A
46	8217	KHARAT ARCHANA JAYVANT	P	P	P	P	P
47	8219	KAMBLE SUREKHA ARUN	A	A	A	A	A
48	8220	HEGADKAR ISHVAR BALASAHEB	P	P	P	P	P
49	8222	PATIL OMKAR DIGAMBAR	P	P	P	P	P
50	8223	KOKARE VIRAJ BALASO	P	P	P	P	P
51	8226	MAKHARE YASH VINAY	P	P	P	P	P
52	8227	SARAK RUSHANT DADA	A	A	P	P	P
53	8228	GAWADE PALLAVI MOHAN	P	P	P	P	P
54	8229	MOMIN FIRDOS MAHAMMADRAPHIK	P	P	P	P	P
55	3064	PISAL SHRADDHA HANUMANT	P	P	P	P	P
56	3065	KAWADE AISHWARYA SOMNATH	P	P	P	P	P
57	3066	NALAWADE SHUBHAM YASHVANT	P	P	P	P	P
58	3068	SATHE RUTUJA GANESH	A	A	P	P	P
59	3069	GHADAGE VIDYA HANUMANT	A	A	A	P	P
60	3071	DHAVAL SNEHAL BIBHISHAN	P	P	P	P	P
61	3072	GUNAVARE YOGESH DATTATRAY	P	P	P	P	P
62	3074	BABAR ANIKET ASHOK	P	P	P	P	P
63	3075	JAGTAP VAIBHAV BHARAT	P	P	P	P	P
64	3077	SABALE GANESH LAXMAN	P	P	P	P	P
65	3079	SAWANT ROHIT ANKUSH	P	A	A	A	P
66	3080	BHOSALE SAI RAJENDRA	P	P	P	P	P
67	3081	BHONG PRATHMESH DADARAM	P	P	P	P	P
68	3084	KUDALE SONALI NAVNATH	A	P	A	A	A
69	3085	MALI KIRTI SANJAY	P	A	A	A	A
70	3088	JADHAV SAYALI DEVIDAS	P	P	P	P	P
71	3091	SATAV GAURI DNYANESHWAR	P	P	P	P	P
72	3092	GANBOTE SAKSHI BHARAT	P	P	P	P	P
73	3094	KOLAPE PRATIKSHA NAGNATH	P	P	P	P	P
74	3095	LOHAR SURAJ DATTATRYA	A	P	P	P	P
75	3096	RAUT AMRUTA RAMDAS	P	P	P	P	P
76	3097	THORAT KANCHAN DASHRATH	P	P	P	P	P
77	3099	FARADE SAMADHAN PANDHARINATH	A	P	P	P	P
78	3100	GALANDE RUSHIKESH SHRIKRUSHNA	A	P	P	P	P
79	3101	LONDHE SAMADHAN BHIMRAO	P	P	P	P	P
80	3102	BARAVKAR SANTOSH SUNIL	A	A	A	A	A
81	3103	HEGADE PRANALI RAMESH	A	P	P	P	P

Co-ordinetor

[Signature]
H.O.D
Dr. J. P. Sarwade
M.Sc., Ph.D.
Head
Department of Zoology
Arts, Science & Commerce
Indapur, Dist. Pune - 41

[Signature]
Principal
PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Indapur Taluka Shikshan Prasarak Mandal's,
ARTS, SCIENCE AND COMMERCE COLLEGE,
INDAPUR, DIST. PUNE

(Affiliated to Savitribai Phule Pune University, Pune)

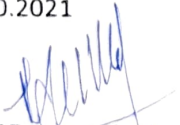


Organized

Certificate Course on Blood group Analysis
(Academic Year 2021-22)

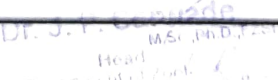
This is to certify that *Kale Rutuja Harishchandra* a student from F. Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Blood Group Analysis (4 Credits). This course is organized by Department of Zoology, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 02.09.2021 to 23.10.2021


Prof. Sonam Jamdade
Course Coordinator


Prof. Dr. Sarwade sir
Head Dept. of Zoology


Prof. Dr. Shivaji Veer
IQAC Coordinator


Prof. Dr. Principal
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR, DIST. PUNE


Dr. J. P. Jamdade
M.Sc., Ph.D., Zool
Head
Department of Zoology
Arts, Science & Commerce
Indapur, Dist. Pune

Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur
Department Of Botany
Certificate Course on Plant Propagation Techniques
Academic Year (2021-2022)

Student Notice

All the Students of **S.Y.B.Sc.** are hereby noticed that our department started **certificate course on Plant Propagation Techniques** for academic year **2021 -22**. This course is open for all **S.Y.B.Sc.** students.

Above course will be started from 03/02/2022 upto 18/02/2022. Interested students fill registration form and submit to department before **01/02/2022**. Contact to department for more details.


PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE




(Prof. Mahadik B.B)
Head
Department of Botany
Arts, Science & Commerce
College, Indapur

Art's, Science & Commerce College, Indapur

Department Of Botany

Syllabus

Plant Propagation Techniques (40 Lectures)

Objectives-

1. Enable the students to identify vegetative plant parts like root, Stem, leaves or modified parts used for Propagation.
2. Provide hands on training for plant propagation method like Cutting, Grafting, Budding & Layering.
3. To give information about commercial importance of propagation methods used for horticultural crops.
4. To give laboratory experience, being able to perform plant propagation methods on a plant.
5. To learn the prospect & scope of Plant Propagation techniques in small scale industry.
6. Help the students to learn a means of self-employment and income generation.

Credit I

Unit –1: Basic concepts of propagation

(3 Lectures)

1. Propagation: Definition, need and potentialities for plant multiplication; 2. Propagation facilities: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses, 3. Identification and propagation by division and separation: Bulbs, pseudo bulbs, corms, tubers and rhizomes; runners, stolon, suckers and offsets.

Unit –3: Propagation by cuttings

(4 Lectures)

1. Cuttings: Definition, different methods of cuttings; root and leaf cuttings. 2. Stem cuttings: Definition of stem tip and section cuttings; plant propagation by herbaceous, soft wood, semi hard wood, hard wood and coniferous stem cuttings. 3. Factors influencing rooting of cuttings; Use of plant growth regulators in rooting of cuttings.

Unit –4: Propagation by layering

(4 Lectures)

1. Layering: Definition, principle and factors influencing layering. 2. Plant propagation by layering: Ground layering – tip layering, simple layering, trench layering, mound (stool) layering and compound (serpentine layering). 3. Air layering technique – application in woody trees.

Unit –5: Propagation by grafting and budding

(5 Lectures)

1. Grafting: Definition, principle, types, graft incompatibility, collection of scion wood stick, scion-stock relationship, and their influences, bud wood certification; micro grafting. 2. Propagation by veneer, whip, cleft, side and bark grafting techniques. 3. Budding: Definition; techniques of ‘T’, inverted ‘T’, patch and chip budding.

Credit II

Practicals

24lectures

Unit 1: Demonstration of Tools and Equipment's used for plant propagation .

Unit 2: To study the natural vegetative methods of plant propagation.

Unit 3: To study the artificial vegetative methods of plant propagation – Types Of Cutting

Unit 4: To study the artificial vegetative methods of plant propagation – Types Of Grafting

Unit 5: To study the artificial vegetative methods of plant propagation – Types Of Budding

Unit 6: To study the artificial vegetative methods of plant propagation –Types of Layering

Unit 7: To study the potting and repotting of ornamental plant.

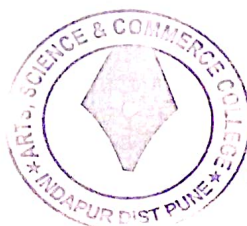


Budget of Course- Total Cost – 2,82,000/-

Financial Details :

Consumables			Equipments		
1.	Earthen pots	20,000	1.	Spades (5)	5,000
2.	Soil	1,000	2.	Forks (5)	2,000
3.	Planting materials	20,000	3.	Secateurs (25)	10,000
4.	Watering	5,000	4.	Knives (50)	10,000
5.	Cococoir	500	5.	Khurpi (10)	3,500
6.	Polybags	2,000	6.	Gardening handtool Set	20,000
7.	Furniture	5,000	7.	Water Cans (5)	4,000
8.	Polythene Tape	5,000	6.	Water Pipes	1,000
9.	Moss	10,000		Chemicals	
10.	Seedlings	5,000	7.	Auxins	2,000
11.	Manures and fertilizers	10,000	8.	Gibberellin	20,000
12.	Cocopeat	5,000	9.	Cytokinin	25,000
Total		89,000/-	Total		1,93,000/-

Fee Per Student- 1000



Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur
Department Of Botany
Certificate Course on Plant Propagation Techniques
Academic Year (2021-2022)

Time Table

		Date														
Sr. No.	Time	3/2/22	4/2/22	5/2/22	7/2/22	8/2/22	9/2/22	10/2/22	11/2/22	12/2/22	14/2/22	15/2/22	16/2/22	17/2/22	18/2/22	
1	12.30 – 1.30	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory KPS	Theory KPS	Theory KPS	Theory KPS	Theory KPS	
2	1.30 - 2.30	Theory MBB	Theory KPS													
3	2.30- 4.30									Practical MBB	Practical KPS	Practical MBB	Practical KPS	Practical MBB	Practical KPS	



Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur
Department Of Botany
Certificate Course on Plant Propagation Techniques
Academic Year (2021-2022)

Time Table

Sr. No.	Time	Date														
		3/2/22	4/2/22	5/2/22	7/2/22	8/2/22	9/2/22	10/2/22	11/2/22	12/2/22	14/2/22	15/2/22	16/2/22	17/2/22	18/2/22	
1	12.30 – 1.30	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory MBB	Theory KPS	Theory KPS	Theory KPS	Theory KPS	Theory KPS	
2	1.30 - 2.30	Theory MBB	Theory KPS													
3	2.30- 4.30									Practical MBB	Practical KPS	Practical MBB	Practical KPS	Practical MBB	Practical KPS	



Indapur Taluka Shikshan Prasarak Mandal's

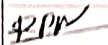
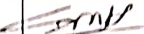
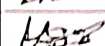
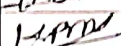
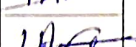
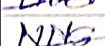
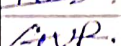
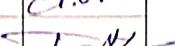
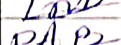
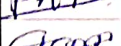
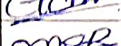
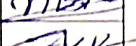
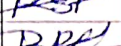
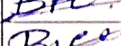
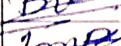
Art's Science And Commerce College Indapur

Department Of Botany

Certificate Course on Plant Propagation Techniques

Students List

Academic Year (2021-2022)

Sr No.	Roll No.	STUDENT NAME	Sign
1	8003	RAUT PRATIK HARIDAS	
2	8007	SARADE MADHURI HANUMANT	
3	8009	LONDHE AKSHAY ASHOK	
4	8010	KALSAT SUPRIYA SUNIL	
5	8011	KUDALE POOJA MARUTI	
6	8012	TIPALE ASHWINI RAMCHANDRA	
7	8013	LAVAND ASHOK GITAJI	
8	8014	NALVADE NIKITA SUNIL	
9	8015	GHOOGARE VAIBHAVI RAJENDRA	
10	8018	TAMBOLI NAFISA HIRA	
11	8020	PAWAR ASHWINI BHAIASAHEB	
12	8025	GAIKWAD GAURI MALHARI	
13	8026	MANE SIDDHI RAMESH	
14	8027	SAYYAD KAREENA KAYYUM	
15	8029	DOLE SNEHAL DIPAK	
16	8032	KUMBHAR SWAPNALI KASHINATH	
17	8035	BHONG PRAGATI LAXMAN	
18	8036	BHALERAO VARSHA SURESH	
19	8037	TAKMOGE MAHADEV RAMESH	
20	8039	TEJAS GANPAT GADE	
21	8040	CHOPADE JYOTI NAGANATH	

22	8043	BHUJBAL VAISHANVI NANASO	<u>BVN</u>
23	8044	KUTAL SAYALI MOHAN	<u>KSM</u>
24	8045	KUTAL PRATIKSHA KALYAN	<u>PKK</u>
25	8048	GURGUDE PRAJAKTA SHRIDHAR	<u>GPS</u>
26	8050	JADHAV VISHWA NARAYAN	<u>JVN</u>
27	8051	DONGARE VAISHNAVI SANJAY	<u>DVS</u>
28	8052	BAGAL TEJASHRI HARIDAS	<u>BTH</u>
29	8054	MANE NIKITA ARUN	<u>MNV</u>
30	8058	JALAMKAR DEVESH PRAMOD	<u>JDP</u>
31	8061	TARANGE SWAPNALI SANJAY	<u>TS</u>
32	8062	VYAVAHARE SUJATA SUBRAV	<u>VSS</u>
33	8065	SABALE VAISHANAVI RAMCHANDRA	<u>SVP</u>
34	8075	SALUNKHE ROHIT SURESH	<u>RS</u>
35	8077	JAGTAP KOMAL TATYASAHEB	<u>JKT</u>
36	8078	SUTAR PRITI RAJENDRA	<u>SPR</u>
37	8079	KATE AJINKYA DATTATRYA	<u>KAD</u>
38	8182	GOPHANE ANNA MARUTI	<u>GAM</u>
39	8183	VYAWAHARE DIVYA SUNIL	<u>VPS</u>
40	8184	SHENDE NIKITA GOPAL	<u>SNK</u>



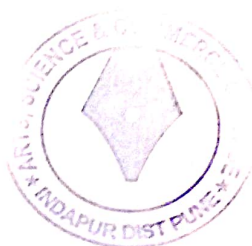
**Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur
Department Of Botany
Certificate Course on Plant Propagation Techniques
Academic Year (2021-2022)**

Attendance

[illegible]

Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur
Department Of Botany
Certificate Course on Plant Propagation Techniques
Academic Year (2021-2022)
Students Feedback Form

1. Are you satisfied with course outcomes?
.....
..... *yes*
2. How would you rate the quality of teaching?
.....
..... *good*
3. Does your teachers completed the syllabus and clarified your queries?
.....
..... *yes*
4. Does your theachers use ICT tools for effective learning?
.....
..... *yes*
5. Overall impact of course.....
..... *good*
6. Suggestions if any.....
..... *N.D.*



Name of the Student *Kudale Pooja Manohar*
Class... *S.Y.B.Sc.*
Roll No... *8011*
Sign : *K.P.*

Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur

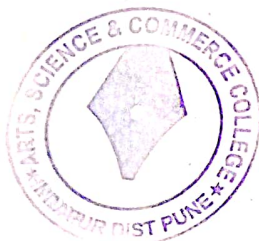
Department Of Botany

Certificate Course on Plant Propagation Techniques

Academic Year (2021-2022)

Students Feedback Form

1. Are you satisfied with course outcomes?
.....
..... *Yes*
2. How would you rate the quality of teaching?
.....
..... *good*
3. Does your teachers completed the syllabus and clarified your queries?
.....
..... *Yes*
4. Does your theachers use ICT tools for effective learning?
.....
..... *Yes*
5. Overall impact of course..
.....
..... *good*
6. Suggestions if any.....
..... *No*



Name of the Student. *Sarade Madhuri Hanuman*

Class. *S.N.B.Sc.*

Roll No. *8007*

Sign : *SMH*

Indapur Taluka Shikshan Prasarak Mandali's,
Arts, Science and Commerce College,
Indapur, Dist. Pune
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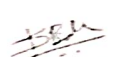
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Certificate Course on Plant Propagation Techniques
(Academic Year 2021-2022)

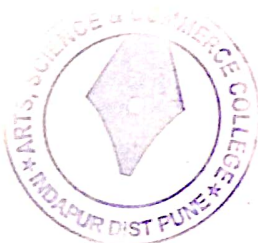
This is to certify that *Kudale Pooja Maruti* a student from S. Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Plant Propagation Techniques. This course is approved by Savitribai Phule Pune University, Pune and organized by Department of Botany, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 03.02.2022 to 18.02.2022


Prof. Dr. Bibhishan Mahadik
Head Dept. of Botany


Prof. Dr. Bibhishan Mahadik
Head Dept. of Botany


Prof. Dr. Sandip Shinde
IQAC Co-ordinator


Prof. Dr. Jiwan Sarwade
Principal



Indapur Taluka Shikshan Prasarak Mandal's,
Arts, Science and Commerce College,
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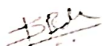
Organized

Certificate Course on Plant Propagation Techniques
(Academic Year 2021-2022)

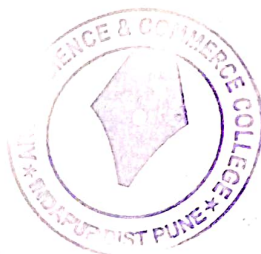
This is to certify that *Sarade Madhuri Hanumant* a student from S. Y. B.Sc. Class has actively participated and successfully completed Certificate Course on Plant Propagation Techniques. This course is approved by Savitribai Phule Pune University, Pune and organized by Department of Botany, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 03.02.2022 to 18.02.2022


Prof. Dr. Bibhishan Mahadik
Head Dept. of Botany


Prof. Dr. Bibhishan Mahadik
Head Dept. of Botany


Prof. Dr. Sandip Shinde
IQAC Co-ordinator


Prof. Dr. Jiwan Sarwade
Principal



**ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR,
DIST- PUNE**

STUDENTS NOTICE 2021-22

Date: 03 /01/2022

All the students of F.Y.B.Sc and T.Y.B.Sc. Those who have taken admission to the add-on course “**FERMENTATION PROCESS AND PRODUCT**” are hereby informed that , their regular theory and practicals will be conducted from 05\01\2022 to 18\01\2022 Attendance of all students is compulsory.

Bhosale

f *[Signature]*
Incharge
Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune



ARTS, SCIENCE AND COMMERCE COLLEGE, INDAPUR

DEPARTMENT OF MICROBIOLOGY

Add-On Course : FERMENTATION PROCESS AND PRODUCTS

(Course Credit: 02) 2021-22

Sr.No.	Name of the Topics	Number of Lectures
1	Introduction	04
2	Fermentation Processes	08
3	Fermentation product–food product and industrial product	08
4	Types of fermentation	20

Chapter I – Introduction

04

Fermentation, chemical process by which molecules such as glucose are broken down anaerobically. More broadly, fermentation is the foaming that occurs during the manufacture of wine and beer, a process at least 10,000 years old.

Chapter II-Fermentation Processes

08

Fermentation is an anaerobic biochemical process. In fermentation, the first process is the same as cellular respiration, which is the formation of pyruvic acid by glycolysis where net 2 ATP molecules are synthesized. In the next step, pyruvate is reduced to lactic acid, ethanol or other products. Here NAD^+ is formed which is re-utilized back in the glycolysis process. Anaerobic fermentation process.

Chapter III- Fermentation product–food product and industrial product.

08

The products are of many types: alcohol, glycerol, and carbon dioxide from yeast fermentation of various sugars; butyl alcohol, acetone, lactic acid, monosodium glutamate, and acetic acid from various bacteria; and citric acid, Gluconic acid, and small amounts of antibiotics, vitamin B_{12} , and riboflavin (vitamin B_2)



- Lactic acid fermentation. Yeast strains and bacteria convert starches or sugars into lactic acid, requiring no heat in preparation. ...
- Ethanol fermentation/alcohol fermentation. ...
- Acetic acid fermentation.

Learning Objectives:

- The students are expected to study
- 1. Knowing importance of the subject from the point of rural economy.
- 2. Knowing fermentation process
- 3. Understanding types of fermentation process
- 4. Understanding fermentation processes and various nutrients-role for the human body.
- 5. Knowing various fermentation product.

Reference :

- Achi OK, Asamudo NU (2019) Cereal-based fermented foods of africa as functional foods. In: Mérillon JM, Ramawat K (eds) Bioactive molecules in food. Reference series in phytochemistry. Springer, Cham. [https:// doi. org/ 10. 1007/ 978-3- 319- 78030-6_ 31](https://doi.org/10.1007/978-3-319-78030-6_31)
- Adams MR (1998) Fermented weaning foods. In: Wood BJB (ed) Microbiology of Fermented Foods. Springer, Boston. [https:// doi. org/ 10. 1007/ 978-1- 4613- 0309-1_ 25](https://doi.org/10.1007/978-1-4613-0309-1_25)

Phasale .

Course Incharge

[Signature]
Principal



ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR

**Name of Add-On Course : "FERMENTATION PROCESS AND
PRODUCTS"**

Time Table (Theory) 2021-22

Date	Time	Name of Faculty
05.01.22	10am-12am	Misal R.
	1pm-3pm	
06.01.22	10am-12am	Raut S.
	1pm-3pm	
7.01.22	10am-12am	Bhosale P.
	1pm-3pm	
09.01.22	10am-12am	Raut S.
	1pm-3pm	
10.01.22	10am-12am	Misal R.
	1pm-3pm	



Time Table (Practical) 2021-22

Date	Time	Name of Faculty
11.01.22	10am-12am	Bhosale P.
	1pm-3pm	
13.01.22	10am-12am	Raut S.
	1pm-3pm	
16.01.22	10am-12am	Bhosale P.
	1pm-3pm	
17.01.22	10am-12am	Misal R.
	1pm-3pm	
18.01.22	10am-12am	Raut S.
	1pm-3pm	

Bhosale

Prof. Bhosale Pooja
(Course Incharge)

Singh

f Principal



ARTS, SCIENCE AND COMMERCE COLLEGE INDAPUR

Name of Add-On Course : “FERMENTATION PROCESS AND PRODUTS”

COURSE COMPLETION REPORT 2021-22

The add-on course “**FERMENTATION PROCESS AND PRODUTS**” has conducted from 05.01.2022 to 18.01.2022 and been successfully completed on 18\01\2022 Total 61 students were admitted for course. The students understand about fermentation process, end product of fermentation process and their product. How to take precautions about storage and handling of fermentation product. Upstream and downstream processing of fermentation product etc. And their manufacturing processes. Similarly students also the information about the fermentation process. So the course will be most useful for students. After completion of this course, certificates are distributed to all participated students.

Bhosale .

Prof. Pooja Bhosale
(Course Incharge)



LIST OF ADMITTED STUDENTS 2021-22

Name of Course: Fermentation and Fermentation Product

[illegible]

59	9259	ARJUN ASHWINI ANANDA	P	A	P	P	P	P	P	A	A	P
60	9260	PADALKAR SUPRIYA VILAS	A	P	P	P	P	P	P	P	P	P
61	9262	BHAGYAVANT SAMIKSHA DATTATRAY	P	A	P	A	P	A	P	P	P	P





**Indapur Taluka Shikshan Prasarak Mandal's
Arts, Science and Commerce College, Indapur, Pune**

"Add-On Course Completion Certificate -2022"

Certificate of Appreciation

This is to certify that Mr/Ms. DESHMUKH ROHAN ASHOK. Arts, Science and Commerce College, Indapur has actively participated in Add-On Course **"Fermentation Process and Product"** organized by Department of Microbiology on 19 January 2022.

Bhosale

Prof. Bhosale Pooja
Course Incharge

Shivaji Veer

Dr. Shivaji Veer
Incharge Science Faculty



ITSPM's
Arts, Science and Commerce College, Indapur

Department of Statistics

Value added course

2021-22

Course Title: R-Programming

2- Credit

Course Objectives

1. Acquire knowledge in essential programming skills in R.
2. Visualize a given data, perform descriptive analysis and carry out a project using R Programming.

Course Outcomes

After successful completion of the course, a student will be able to perform the following using R Programming

CO1: Demonstrate basic programming skills in R

CO2: Describe and illustrate the data

CO3: Design and carryout a project with statistical analysis using R Programming and present the report.

SYLLABUS

UNIT – I

Introduction to R: – Overview, Environment Setup, Basic Syntax, Data types.

R Basics: – Variables, Operators, Decision Making, Loops, Functions, Strings, Vectors, Lists, Matrices, Arrays, Factors, Data Frames, Packages.

UNIT – II

Data visualisation: – Pie Charts, Bar Charts, Area Charts, Bubble Charts, Surface charts, , Waterfall charts, Box Plots, Violin plots, Histograms, Line Graphs, Scatter plots, Matrix plots:

Statistical Analysis in R: – Descriptive statistics: measures of central tendency, measures of dispersion, partition values, moments, skewness and kurtosis, Regression.


HEAD

Department Of Statistics
Arts, Science & Commerce College
Indapur(Pune)




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ITSPM's
Arts, Science And Commerce College, Indapur

Department of Statistics

Notice for Student

Date-2/03/2022

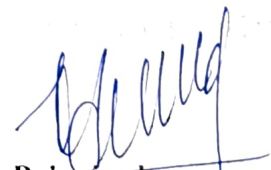
All the Student who registered their names to 'Value added Course in R Programming' are hereby informed that their lectures and practicals will be started on Monday, 07/03/2022 in Room No. 66 at 12 pm to 1 pm. It is compulsory to attain the lectures of value added course for getting desired credit.



HOD

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Department Of Statistics
Arts, Science & Commerce College
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Principal

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ITSPM's
Arts, Science And Commerce College , Indapur
Department Of Statistics
Value added Course in R-Programming
2021-22
Timetable

Time	Friday	Saturday
12 Pm To 1 Pm	Theory	-
2 Pm To 3 Pm	-	Practical



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Arts, Science And Commerce College, Indapur
Department of Statistics
Value added Course in R-Programming

List of Registered Students
Academic Year 2021-22

Sr.No.	Roll.No.	Student Name	Class
1.	3033	Gutal Pradnya Kanifnath	F.Y.B.Sc.
2.	3001	Jagtap Arati Arjun	F.Y.B.Sc.
3.	3078	Bale Vinayajyothi Kirankumar	F.Y.B.Sc.
4.	3213	Bale Anusha Kirankumar	F.Y.B.Sc.
5.	3012	Pawar Kalyani Ashok	F.Y.B.Sc.
6.	3063	Dolas Jayshri Siddheshwar	F.Y.B.Sc.
7.	3015	Bansode Priya Annasaheb	F.Y.B.Sc.
8.	3067	Bhosale Madhuri Navnath	F.Y.B.Sc.
9.	3062	Shaikh Alfiya Aslam	F.Y.B.Sc.
10.	3182	Baral Arpita Subhash	F.Y.B.Sc.
11.	3049	Londhe Prathmesh Siddheshwar	F.Y.B.Sc.
12.	8056	Mali Nikita Navnath	S.Y.B.Sc.
13.	8064	Kirkat Shambhu Mahadev	S.Y.B.Sc.
14.	8047	Amogh Avinash Vinchu	S.Y.B.Sc.
15.	8028	Patil Dhanashri Shashikant	S.Y.B.Sc.
16.	8060	Prajakta Kalidas Markad	S.Y.B.Sc.
17.	8210	Chaphakanade Nikita Vishwanath	S.Y.B.Sc.
18.	8023	Deokar Shweta Bapusaheb	S.Y.B.Sc.

H.O.D

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ITSPM's
Arts, Science And Commerce College, Indapur
Department of Statistics
Value added Course in R-Programming

Attendance Sheet

Academic Year 2021-22

Sr.No.	Roll.No.	Student Name	01/02	04/02	10/02	13/02	17/02	26/02
1.	3033	Gutal Pradnya Kanifnath	P	P	P	P	P	P
2.	3001	Jagtap Arati Arjun	P	P	P	P	P	P
3.	3078	Bale Vinayajyothi Kirankumar	P	P	P	P	P	P
4.	3213	Bale Anusha Kirankumar	P	P	P	P	P	P
5.	3012	Pawar Kalyani Ashok	P	P	P	P	P	P
6.	3063	Dolas Jayshri Siddheshwar	P	P	A	P	P	P
7.	3015	Bansode Priya Annasaheb	P	P	P	P	P	P
8.	3067	Bhosale Madhuri Navnath	P	P	A	P	P	P
9.	3062	Shaikh Alfiya Aslam	P	P	P	P	P	P
10.	3182	Baral Arpita Subhash	P	P	A	P	P	P
11.	3049	Londhe Prathmesh Siddheshwar	P	P	P	A	P	P
12.	8056	Mali Nikita Navnath	P	P	P	P	P	P
13.	8064	Kirkat Shambhu Mahadev	P	P	P	P	P	P
14.	8047	Amogh Avinash Vinchu	P	P	P	A	P	P
15.	8028	Patil Dhanashri Shashikant	P	P	P	P	P	P
16.	8060	Prajakta Kalidas Markad	P	P	P	P	A	P
17.	8210	Chaphakanade Nikita Vishwanath	P	P	P	P	P	P
18.	8023	Deokar Shweta Bapusaheb	P	P	A	P	P	P


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Indapur Taluka Shikshan Prasarak Mandal's,

**ARTS, SCIENCE AND COMMERCE COLLEGE,
INDAPUR, DIST. PUNE**

(Affiliated to Savitribai Phule Pune University, Pune)



Organized

**Value added course in R-Programming
(Academic Year 2021-22)**

This is to certify that *Patil Dhanashri Shashikant* a student from S.Y. B.Sc. Class has actively participated and successfully completed value added course in R-Programming (2 Credits). This course is organized by Department of Statistics, ITSPM's, Arts, Science and Commerce College, Indapur, Dist. Pune from 07.03.2022 to 19.03.2022

Prof. Prasad Kamble
Course Co-ordinator

Prof. Dr. Shivaji Veer
IQAC Co-ordinator

Prof. Dr. Sanjay Chakane
Principal