

# **Dombivli Shikshan Prasarak Mandal's**

**K.V. Pendharkar College of Arts, Science & Commerce, Dombivli East**

## **Department of Biotechnology**

### **Proposal for Certificate Course in Sewage Treatment Plant Process**

**Academic year 2020-2021**

#### **Course information**

<b>Course Name</b>	Sewage Treatment Plant Process
<b>Course Level</b>	Certificate Course
<b>Course Duration</b>	8 weeks of 30 hours
<b>Course Description</b>	This course is designed to provide an overview of the different treatment stages involved in a Sewage treatment plant. Basic unit operations and chemical, biological unit processes involved in the Sewage treatment chain will be described. There will be an emphasis on the significance of assessment of treated water quality.
<b>Eligibility</b>	Any Undergraduate students of Arts, Science and Commerce discipline are eligible to undertake this certificate course
<b>Intake capacity</b>	30 students
<b>Fee</b>	Rs. 1000/- per student

#### **Teaching, Learning and assessment**

<b>Total teaching hours</b>	30 hours
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<b>Teaching methodologies</b>	<ul style="list-style-type: none"> <li>● Classroom course involving Traditional Blackboard teaching and PowerPoint presentation</li> <li>● Audio-visual learning</li> <li>● Practical based learning</li> <li>● Visit to STP</li> </ul>
<b>Learning Outcome</b>	<p>After completion of the certificate course, students will be able to</p> <ul style="list-style-type: none"> <li>● Explain the importance of sewage treatment</li> <li>● Describe the function of the process units involved in sewage water treatment technologies</li> <li>● Describe the physical, chemical and biological processes involved in the sewage treatment process</li> <li>● Outline the various bioremediation techniques of sewage treatment</li> <li>● Find solution to create green and clean environment</li> </ul>
<b>Component of assessment</b>	Submission and Presentation on topics related to Sewage treatment processes

**Budget for Certificate Course in Sewage Treatment Plant Process**

<b>Sr. No.</b>	<b>Category</b>	<b>First Batch (Amount in Rupees)</b>	<b>Subsequent Batches (Amount in Rupees)</b>
1.	Fees for batch of 30 students  (INR 1000 per student)	30,000	30,000
2.		<b>Expenditure</b>	<b>Expenditure</b>
	Laboratory	-	-
	Instruments	7000	-
3.	<b>Recurring expenses</b>		
	Chemicals & Glassware	4000	4000
	Library books	-	-
	Remuneration to Teaching staff and Non- teaching staff  No. of teaching staff: 06  No. of non-teaching staff: 01	8700	8700
	Certificate printing	1000	1000
	Contingency	2000	2000
	<b>Total</b>	22,700	15,700

**Provisional:** One practical: Rs. 450/-  
Two lectures: Rs. 500/-

**Submitted by**

**Ms. Sandeeptha Rathindran**

## **Syllabus**

### **Certificate Course in Sewage Treatment Plant Process**

**Credits: 2**

**2 Modules (30 hrs)**

**Fee for the Course: Rs.1000**

<b>Theory (18 hours)</b>	
<b>Introduction to Sewage :</b> Definition, Sources, characteristics of sewage, Impact of untreated sewage wastewater on environment	02 hrs
<b>Basic Unit Operations in Sewage wastewater treatment :</b> Primary treatment, Secondary treatment, Tertiary treatment  <b>Sludge management</b>  <b>Designing of Sewage treatment plant</b>	09 hrs
<b>Bioremediation of Sewage:</b> Ex situ and In situ Bioremediation, Genetically engineered microbes for Bioremediation  <b>Significance and Assessment of water quality</b>	07 hrs
<b>Practical (12 hours)</b>	
<b>Microbiological analysis of untreated and treated effluent</b>  <b>Analysis of Physicochemical parameters of untreated and treated effluent:</b> Determination of TSS, Colour, Turbidity, pH, BOD and COD	12 hrs

**Reference books:**

1. Environmental Biotechnology Allan Scragg Oxford University press
2. Environmental Biotechnology Indu Shekar Thakur IK International
3. Gupta P.K. Elements of Biotechnology Rastogi Publications, Meerut 2004.
4. Dubey, R.C. Text Book of Biotechnology. S. Chand & Co. 2004.
5. The STP Guide- Design, Operation and Maintenance: Ananth S Kodavasal

# **Dombivli Shikshan Prasarak Mandal's**

**K.V. Pendharkar College of Arts, Science & Commerce, Dombivli East  
Autonomous**

## **Department of Biotechnology**

### **Certificate Course in Sewage Treatment Plant Process**

Date: 28-05-2021

The Department of Biotechnology of DSPM's K.V. Pendharkar College of Arts, Science & Commerce (Autonomous), in the academic year 2020-21, had launched a new Skill Development Certificate course in Sewage Treatment Plant Process for all the Undergraduate students of Arts, Science and Commerce. This course was designed to provide an overview of the different treatment stages involved in a Sewage treatment plant and the significance of assessment of treated sewage and its applications.

The total no. of students who got enrolled for this course in this academic year was 11.

List of student detail given in **Annexure 1**.

The fees for this certificate course was Rs.1000/- per student.

Total fee collected under this course: Rs. 11,000/-

An introductory lecture for the students was conducted on 26<sup>th</sup> January, 2021 wherein the students were briefed about this certificate course. The Certificate course began in the first week of February and got completed by the second week of May. A total of 26 hours of teaching which included 18 lectures and 4 practical was taken to cover the syllabus of this course.

<b>Sr. No.</b>	<b>Name of the Faculty</b>	<b>Lectures (hours)</b>	<b>Practical (hours)</b>	<b>Total workload (hours)</b>
1.	Dr. Suman Satyarum	04	02	06
2.	Dr. Kavita Kamat	04	02	06
3.	Ms. Sandeeptha Rathindran	05	-	05
4.	Ms. Sneha Pande	02	02	04
5	Ms. Seema Jadhav	03	02	05
	<b>TOTAL</b>			<b>26</b>

As an evaluation part of this certificate course, students were asked to present a PowerPoint presentation on Sewage treatment process related topics. The students were judged on the basis of their understanding of concept, slide preparation and the presentation skills. The student PowerPoint presentation was held on 22<sup>nd</sup> May, 2021 at 10.00am virtually.

Report submitted by  
Ms. Sandeeptha Rathindran  
Course Coordinator  
Dept. of Biotechnology

### **Annexure 1**

List of students enrolled:

<b>Sr. No.</b>	<b>Name of the student</b>	<b>Class</b>	<b>Roll No.</b>
1.	Aarya Verma	T.Y. Biotech	20-7380
2.	Akshada Jha	S.Y. Biotech	20-6024
3.	Akshay Mane	T.Y. Biotech	20-7362
4.	Anushree Tadke	T.Y. Biotech	20-7376
5.	Meena Selvaraj	S.Y. Biotech	20-6033
6.	Pooja Nagaonkar	S.Y. Biotech	20-6034
7.	Reva Chavan	S.Y. Biotech	20-6016
8.	Rutika Punyarthi	T.Y. Biotech	20-7369
9.	Shravni Chavan	S.Y. Biotech	20-6017
10.	Soham Kale	T.Y. Biotech	20-7359
11.	Vaishnavi Sakpal	T.Y. Biotech	20-7371



**Dombivli Shikshan Prasarak Mandal's**  
**K. V. PENDHARKAR COLLEGE OF ARTS,**  
**SCIENCE & COMMERCE**



Dombivli, District - Thane  
(Affiliated to University of Mumbai)

Year : \_\_\_\_\_

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Name of the course : Certificate Course in Retail Management

Date of Admission : \_\_\_\_\_ Receipt No. \_\_\_\_\_ Roll No. \_\_\_\_\_

Name of the Student : \_\_\_\_\_  
Surname First Name Name of Father / Husband Name of Mother

Date & Place of Birth : \_\_\_\_\_

Gender : \_\_\_\_\_ Blood Group : \_\_\_\_\_

Religion : \_\_\_\_\_

Last Examination Attended : \_\_\_\_\_

Marks obtained in last examination : \_\_\_\_\_

Address for Correspondence : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact No.: Mobile: \_\_\_\_\_ E-mail : \_\_\_\_\_

Permanent Address : (Write only if different than above) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact No.: Mobile: \_\_\_\_\_ E-mail : \_\_\_\_\_

\_\_\_\_\_  
Signature of the Student

\_\_\_\_\_  
Signature of Parent



# **Certificate Course in Retail Management**

## **Module 1: Introduction to Retail Management**

Meaning and Definition on Retailing, Concept of Retail Management, Nature of Indian Retail Markets, Retail Theories, Retailer's Role in Distribution Channel.

## **Module 2: Retail Framework and Retail Strategy**

Steps in starting retail business, retail store location-Legal procedure, Store design, the retail image mix, the space mix & layout.

**Retail Strategy:** Meaning, Retail Market Strategy, Target Market & Retail Format, Building a sustainable competitive advantage, Customer Loyalty, Human resource Management, Distribution and Information System, Unique Merchandise, Vendor Relations, Strategic Retail Planning Process.

## **Module 3: Marketing Mix**

Retail marketing mix-Key elements-Place, Price, Product, Promotion, Presentation, and People Element-RETAIL FRANCHISING

## **Module 4: Trends in Retailing**

Recent trends in retailing, FDI in retailing- Global retailing, Indian Scenario of retailing and its contribution to Indian economy, Ethics in retailing, Green retailing, Warehouse clubs, E-Retailing-retail as a career.

## **Module 5: Merchandise Management**

Meaning, Organising the buying process by categories, Setting objectives for the merchandise plan Buying Merchandise: Branding Option available to retailers, Private Labelling, International Sourcing decisions, Pricing strategy.

**Price Adjustment:** Meaning of Terms like Markdowns, Coupons, Rebates, Price Bundling, Multiple Unit pricing, Variable pricing.

## **Module 6: Technology in Retail**

Need For Technology In Retail- Electronic Data Interchange (EDI), Radio Frequency Identification (RFID)- Database Management- Data Warehousing- Data Mining.

## **Module 7: Understanding Retail Consumers**

Consumer behaviour in retail context, Theories of consumer behaviour, Buying decision process, Factors influencing retail shopper- Consumer's psychology.

## **Module 8: Supply Chain Management**

Meaning, purpose & scope & benefits of SCM, Types of supply chain, Levels of SC, Supplier relationship management.

**List of students who enrolled in add on course – Retail management AY 2020-21**

Sr.No	Roll No.	Name
1.	RM20-01	Nalavade Avanti Anil Pravina
2.	RM20-02	Nikam Laxmi Suresh Mukta
3.	RM20-03	Pawar Karishma Ajit Akanksha
4.	RM20-04	Sarmalkar Neha Sunil Suhasini
5.	RM20-05	Singh Hema Lakhan Sumitra
6.	RM20-06	Narvekar Prathamesh Surendra Suchita

Course Name: **Remote Sensing of Land Degradation**

Course Coordinator: Mr Justin George K

Course Duration: **Dec 01-07, 2020**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
01/12/2020	Tuesday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Land Degradation – An Overview  Interactive Session	Dr.Suresh Kumar
02/12/2020	Wednesday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Soil Erosion  Interactive Session	Mr. Justin George K,
02/12/2020	Thursdays	1600-1700hrs 1700-1730 hrs	Remote Sensing of Salt-affected Soils : Optical & Microwave Interactive Session	Dr. Dipanwita Haldar
04/12/2020	Friday	1600-1700hrs 1700-1730 hrs	Remote Sensing of Vegetal Degradation and Desertification  Interactive Session	Dr. N R Patel,
07/12/2020	Monday	1600-1645hrs	Mitigating Land Degradation and Land Restoration Interactive Session	Dr. Suresh Kumar,
07/12/2020	Monday	1645-1730hrs	Panel Discussion	Course Faculty





**DSPM'S K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE & COMMERCE,  
DOMBIVLI**

**Add on Course**

**IIRS/ ISRO OUTREACH PROGRAMME**

**The Department of Geography Collaborate with IIRS/ ISRO  
OUTREACH PROGRAMME on**

**Geospatial Technology**

**E-learning mode:** The e-learning courses are self-paced and learner centric and targets professionals, academia and research community to enhance their knowledge in remote sensing and geospatial technology using online simulated learning contents.

**Objectives of the Course:**

- To provide an opportunity for individuals to learn Remote Sensing and Geoinformation Science.
- To provide considerable flexibility allowing students to quickly gain the RS and GIS knowledge and qualification.
- To understand practical component and project associated with it
- To develop learners' research, analytical and problem-solving skills.
- To undergo Laboratory Practical and Experiments in Cloud Computing Environment

**Title of Course: Geospatial Technology**

**Target Group:** Undergraduate students of any stream

**Facilities required in the Department:** Classroom: 326, Information Technology Lab (106)

Successfully Completed the Course:

<b>Sr. No</b>	<b>Date</b>	<b>E- Class: Geospatial Technology Course</b>	<b>Total No. of Students Completed the course</b>
<b>1.</b>	<b>02 to 20 Nov. 2020</b>	<b>69th IIRS Outreach Programme RS and GIS Applications</b>	<b>12</b>
<b>2.</b>	<b>01 to 05 Dec. 2020</b>	<b>70th IIRS Outreach Programme on Remote Sensing of Land Degradation</b>	<b>70</b>



## Assessment Structure

IIRS is conducting online e-learning based courses on Remote Sensing and Geoinformation Science of 1 month and 4 months durations. The criteria for issuing online certificates is set as following:

1. 20%- Total time spend in e-learning contents. Total recommended time in each screen is published. The minimum requirement to appear in exam is more than 80% of recommended time for each course. The Assessment will be included based on total spend hours.
2. 10%- Marks obtained in Mini project.
3. 70%- Will be taken from online examinations.

Ms. Dhobale Shital  
Head, Dept. of Geography

Government of India  
Department of Space  
Indian Space Research Organization  
**Indian Institute of Remote Sensing, Dehradun**

Geospatial Technology and Outreach Programme Group  
Geoweb Services, IT and Distance Learning Department

**Date:** June 11, 2020

### **Guidelines to Join Online Course through IIRS-ISRO E-CLASS Platform**

Following guidelines and Standard Operating Procedures are issued for live & interactive courses under IIRS Outreach programme.

#### **A. Step 1:**

Register for the course through-

<https://elearning.iirs.gov.in/edusatregistration/student>. Please provide your details very carefully specially your email ID and mobile number.

You will receive one registration number on successful submission of your application as web page display and email message.

#### **B. Step 2:**

Activate your account by clicking on given link in your email. Once account is activated and email is verified, your application will be available for selection process to Institute/Course coordinator/Director.

#### **C. Step 3:**

The course coordinator/Director will review your application and verify the submitted documents and approve or reject your application.

#### **D. Step 4:**

All the approved participants will receive an approval email with their login credentials of IIRS **E-CLASS** platform (<https://eclass.iirs.gov.in>) and Examination Portal (<https://elearning.iirs.gov.in>). Single user name and password will work for both the portals.

- **Case 1:** If login credentials are received with approval email, please visit: <https://eclass.iirs.gov.in>
- **Case 2-** If you have not received any approval email then please check status of your application at: <https://elearning.iirs.gov.in/edusatregistration/studentstatus> and if your status is “**Approved**” then reset your password by clicking on link provided in above web page or through URL- [https://elearning.iirs.gov.in/mdl/login/forgot\\_password.php](https://elearning.iirs.gov.in/mdl/login/forgot_password.php)

- **Case 3-** If you have already participated in any earlier online course of IIRS-ISRO then your old login credentials will be valid for this course also. No new login credentials will be provided. However you can reset your password by clicking on “Forgot Password?” available in E-CLASS portal.
- **Case 4-** If status of your application is “Not Approved” then you are considered as **Learner**. Please watch live sessions through: <https://www.youtube.com/user/edusat2004>

## **E. Step 5:**

All the approved participants has to login at IIRS **E-CLASS platform- <https://eclass.iirs.gov.in>** with his/her credentials during live sessions. For course schedule and contents please visit- <https://www.iirs.gov.in/EDUSAT-News> . The daily course schedule will be available in E-CLASS also.

## **F. Step 6 - Course Delivery**

### **I. Procedure of Attendance Recording:**

- The E-CLASS platform will automatically record the attendance of a participant based on his/her login during the session and presence during the session.
- Typically, the attendance is marked as present after 50% duration of total session time. For example, if total duration of a session is 60 minutes then the attendance will be marked as “Present” after 30 minutes of active login.
- If due to some technical problem or other reason participant is unable to continue the session then he/she has to watch the same session through “**Offline**” mode available under E-CLASS login. The time for offline session will be recorded/updated accordingly.
- The coordinators of networked Institutions are also allowed to upload the attendance of an individual participant through their E-CLASS CMS login. If by any reason attendance of a participant is not being recorded/updated in E-CLASS then he/she can ask his/her Coordinator to upload their attendance for particular course.

### **II. Study Materials:**

- All the study material such as presentation contents, suggested links and recorded video sessions will be available under E-CLASS login.
- Interactive e-learning/MOOC contents will be available under IIRS e-learning portal- <https://elearning.iirs.gov.in> where participant has to login by using same login credentials of E-CLASS. Note: Please click on “Participant Login” button before proceeding further in e-learning portal.

### **III. Status of Attendance:**

- Status of course-wise attendance will be available under E-CLASS login with eligibility for examination.

### **IV. Feedback of the course:**

- All the participants have to submit feedback of individual course through E-CLASS. After successful login to E-CLASS the feedback link will be available for each course.

#### **V. Online Examination:**

- All the participants who are meeting the minimum attendance criteria will be allowed for online examination. The examination will be conducted through: <https://elearning.iirs.gov.in> . The date and time of examination will be intimated within 2 weeks of course completion.
- The Multiple Choice Questions (MCQ) and True/False statement based questions will be asked during online examination.
- The random questions will be displayed to the participant from available question bank in IIRS E-CALSS platform.
- The minimum passing score will be announced for each course separately. All the successful participants in examination will be eligible for course certificate.

#### **VI. Issue of Certificate:**

- The certificate will be issued within 2 to 3 weeks of online examination. The certificate will be available through coordinator of networked Institution (if applicable).
- The certificate will also be available under E-CLASS login of each participant.

#### **VII. Certificate Validation:**

- All the certificate of IIRS-ISRO online courses can be validated through direct scanning of QR code available certificate or through <https://certificate.iirs.gov.in>

#### **G. Technical Support:**

For any further technical problems and support please contact us on following telephone numbers and email:

##### **Telephones:**

- +91-135-2524130 (Course content delivery)
- +91-135-2524120 (Web/Technical Support)
- +91-135-2524354 (Certificate related)

##### **Email:**

- Course content delivery- [dlp@iirs.gov.in](mailto:dlp@iirs.gov.in)
- Web Support- [websupport@iirs.gov.in](mailto:websupport@iirs.gov.in)
- Programme coordinator- [poonam@iirs.gov.in](mailto:poonam@iirs.gov.in)
- Head, GIT&DL Department- [harish@iirs.gov.in](mailto:harish@iirs.gov.in) (For any un-resolved matters)

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**DSPM's K.V. PENDHARKAR COLLEGE**

**Department of Geography**

**Add On Course**

**Geospatial Technology**

Course Name: RS & GIS Applications

Course Coordinator: Shri C.M. Bhatt

Course Duration: 02/11/2020 to 20/11/2020

Total Number of Students: 12

<b>Attendance Record for Course on RS &amp; GIS Applications</b>					
<b>Registration Number</b>	<b>Name</b>	<b>Total Sessions</b>	<b>No. of sessions attended</b>	<b>% of Attendance</b>	<b>Eligibility for Examination/ Certificate</b>
2020690550612	MS. NAYANSHEE RAM BABU SAHU	12	7	58.33	<b>No</b>
2020690550792	MR. YASH SANJAY BAILE	12	8	66.67	<b>No</b>
2020690551656	MR. TANISH SANTOSH DESHMUKH	12	10	83.33	<b>Yes</b>
2020690550672	MR. MANISH RAKESH SONI	12	10	83.33	<b>Yes</b>
2020690551716	MR. MANISH KALURAM GADADE	12	10	83.33	<b>Yes</b>
2020690551532	MR. ABHINAY PRAVIN DUMBRE	12	10	83.33	<b>Yes</b>
2020690551604	MR. ATHRVA DILIP DIXIT	12	11	91.67	<b>Yes</b>
2020690550844	MS. KRUTIKA RAJESH BANSODE	12	11	91.67	<b>Yes</b>
2020690550708	MS. RUKYYA MOHDEBRAHIM SIDDIQUI	12	11	91.67	<b>Yes</b>
2020690550912	MR. SACHINKUMAR SATISH KARAN	12	12	100	<b>Yes</b>
2020690551008	MR. PRANAY KISHOR RANE	12	12	100	<b>Yes</b>
2020690550808	MS. RIDDHI SUBHASH PAWAR	12	12	100	<b>Yes</b>

Ms. Shital Dhobale  
Head, Dept. of Geography

**DSPM's K.V. PENDHARKAR COLLEGE****Department of Geography****Add On Course**  
**Geospatial Technology**

Course Name: Remote Sensing of Land Degradation

Course Coordinator: Mr Justin George K

Course Duration: Dec 01-07, 2020

Total Number of Students: 70

Attendance Record for Course on Remote Sensing of Land Degradation					
Registration Number	Name	Total Sessions	No. of sessions attended	% of Attendance	Eligibility for Examination/Certificate
2020700567713	MS. JYOTI ABA SARDAR	5	2	40	No
2020700565233	MR. ROSHAN BIJU GEORGE	5	2	40	No
2020700565061	MS. ANJALI AMARSING VALVI	5	3	60	No
2020700566905	MR. CHANDRAMANI PANNALAL KANOJIYA	5	3	60	No
2020700564953	MR. RISHIKESH RAMDAS JADHAV	5	3	60	No
2020700567193	MR. BHUSHAN DEVKULE	5	3	60	No
2020700565141	MR. CHOUDHARY AMAN PAWAN KUMAR AMAN CHOUDHARY	5	4	80	Yes
2020700565057	MS. ANUSHKA MILIND ACHARYA	5	4	80	Yes
2020700566645	MR. DARSHIT ARUN BHANGRE	5	4	80	Yes
2020700564949	MS. KSHITIJ MUKUND KAMBLE	5	4	80	Yes
2020700565153	MS. APARNA SANTOSH BHOIR	5	4	80	Yes
2020700567805	MS. SIMRAN SUBHASH GHAG	5	4	80	Yes
2020700564917	MR. AYUSH SUSHIL SARFARE	5	4	80	Yes
2020700566029	MR. PRATIK NARENDRASINH GOHIL	5	4	80	Yes

2020700564957	MR. OMKAR BHAIRAVNATH JADHAV	5	4	80	Yes
2020700565825	MS. GAYATRI RAJESH CHAUDHARI	5	4	80	Yes
2020700562401	MS. DHANSHREE VILAS MAHAJAN	5	4	80	Yes
2020700565029	MR. ZAKIR KAMARUDDIN FAKIR	5	4	80	Yes
2020700565405	MS. LAXMI VIJAYKUMAR NISHAD	5	4	80	Yes
2020700564709	MR. YASH GAJANAN NANDVIKAR	5	4	80	Yes
2020700565421	MR. NILESH PRAKASH YADAV	5	4	80	Yes
2020700564393	MR. HIMAVANTH THIYAGARAJAN	5	5	100	Yes
2020700553181	MR. SIDDHESH NARESHKUMAR LAD	5	5	100	Yes
2020700564977	MS. SHABANA KHATUN ANSARI	5	5	100	Yes
2020700565913	MS. PRAJAKTA KOSHE	5	5	100	Yes
2020700564909	MS. PALLAVI DATTATRAY PATIL	5	5	100	Yes
2020700564761	MS. PRANAVI RAJENDRA MOHITE	5	5	100	Yes
2020700575702	MS. REVA PRASAD CHAVAN	5	5	100	Yes
2020700562785	MR. MANISH KALURAM GADADE	5	5	100	Yes
2020700565613	MR. ASHISH SHINDE	5	5	100	Yes
2020700564869	MS. SHRAVNI JAYANT CHAVAN	5	5	100	Yes
2020700564617	MS. SHEETAL BHARAT MESHRAM	5	5	100	Yes
2020700562389	MS. CHANDANI PRAKASH AMODKAR	5	5	100	Yes
2020700565013	MS. DHANASHRI PARAG MANDRA	5	5	100	Yes
2020700565977	MS. TANVI ABHAY SARANG	5	5	100	Yes
2020700565273	MS. VAISHNAVI MILIND MALI	5	5	100	Yes
2020700564765	MS. PRIYANKA SUBHASH SINGH	5	5	100	Yes

2020700563077	MR. SACHINKUMAR SATISH KARAN	5	5	100	Yes
2020700565689	MR. CHIRAG ASHOK PANDE	5	5	100	Yes
2020700564881	MONALISA NILANCHAL SAHU	5	5	100	Yes
2020700564697	MR. SHUBHAM BHAGWAN MHATRE	5	5	100	Yes
2020700565173	MR. TEJAS NITIN PAWAR	5	5	100	Yes
2020700569221	MS. RIDDHI RAJESH RAWAL	5	5	100	Yes
2020700562397	MS. KRUTIKA RAJESH BANSODE	5	5	100	Yes
2020700565025	MS. RUCHITA PRAMOD MALEKAR	5	5	100	Yes
2020700564925	MR. NIKHIL NITIN HELWATKAR	5	5	100	Yes
2020700565345	MR. KALPESH VIRENDRA DUBEY	5	5	100	Yes
2020700564777	MR. ATHARVA BHOOSHAN JAYWANT	5	5	100	Yes
2020700564357	MR. ABHIJEET RAJU YADAV	5	5	100	Yes
2020700565097	MS. SHRUTI VILAS KADAM	5	5	100	Yes
2020700564885	MS. ANUSHREE SAROJKUMAR TADKE	5	5	100	Yes
2020700565193	MS. VAISHNAVI KISHOR SAKPAL	5	5	100	Yes
2020700564705	MR. MANISH RAKESH SONI	5	5	100	Yes
2020700575215	MS. BHAKTI BALARAM CHALKE	5	5	100	Yes
2020700566137	MS. PAYAL SHARAD PATIL	5	5	100	Yes
2020700564933	MS. AARYA MANOJ VERMA	5	5	100	Yes
2020700564849	MR. SOHAM VIKAS KALE	5	5	100	Yes
2020700564369	MR. JAYESH RAJU PADALE	5	5	100	Yes
2020700565105	MS. SHRUTI ANGAD YADAV	5	5	100	Yes
2020700567501	MS. SAKSHI KADAM	5	5	100	Yes
2020700564969	MR. AKSHAY BALASO MANE	5	5	100	Yes

2020700565857	MS. NEHA NARAYAN PATIL	5	5	100	<b>Yes</b>
2020700564893	MR. DENZIL AGNELO LOBO	5	5	100	<b>Yes</b>
2020700565225	MR. NAVNEET RAJKUMAR MEHTA	5	5	100	<b>Yes</b>
2020700575255	MS. POOJA NAGAONKAR	5	5	100	<b>Yes</b>
2020700562781	MR. ATHARVA DILIP DIXIT	5	5	100	<b>Yes</b>
2020700565033	MS. TANVI PRAVIN SHINDE	5	5	100	<b>Yes</b>
2020700566221	MS. MEENA SELVARAJ .	5	5	100	<b>Yes</b>
2020700564945	MS. VIJAYALAKSHMI HARIRAMAN MUDALIYAR	5	5	100	<b>Yes</b>
2020700564865	MS. PRITI SANJAY BHAGWAT	5	5	100	<b>Yes</b>

Ms. Shital Dhobale  
Head, Dept. of Geography

Apiculture certificate course 2020-21 Students list		
Sr.No.	Name	Email Address
1	Mrunmayee Dattatray Maskare	mrunmayeemaskare05@gmail.com
2	Ambhore Pratiksha Ravindra	pratikshaambhore415@gmail.com
3	Krutika Karekar	krutikakarekar754@gmail.com
4	Komal Chourasiya	Chourasiyakomal2001@gmail.com
5	Renuka Kalyankar	kalyankarrenu22@gmail.com
6	Shreyas Gupta	shreyaskupate@gmail.com
7	Chetna Kokare	chetna.kokare@gmail.com
8	Sanat Chitnis	sanatchitnis@gmail.com
9	Samruddhi Bhuskute	Samruddhi.bhuskute7@gmail.com
10	Rohidas Dagale	rohidasdagale2010@gmail.com
11	Vrushabh Zagade	zagdevrushabh@gmail.com

**Module/Course Name- RS & GIS Applications**  
**Module/ Course Coordinator: Shri C.M. Bhatt**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
02/11/2020	Monday	1600-1730 hrs	Applications of Remote Sensing & other Geospatial Technologies in Natural Resources Management, Development & Governance	Dr. S. K Srivastav
03/11/2020	Tuesday	1600-1730 hrs	Remote Sensing and GIS applications for Crop Resource Assessment and Monitoring	Dr. N.R. Patel
05/11/2020	Wednesday	1600-1730 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
06/11/2020	Thursdays	1600-1730 hrs	Remote Sensing Applications for Geological studies	Dr. R.S. Chatterjee
09/11/2020	Monday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. P.K.C.Ray
10/11/2020	Tuesday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Shri. Pramod Kumar
11/11/2020	Wednesday	1600-1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
12/11/2020	Thursdays	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Hitendra Padalia
16/11/2020	Monday	1600 – 1730 hrs	RS applications for Planetary Studies	Dr. Prakash Chauhan
17/11/2020	Tuesday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
18/11/2020	Wednesday	1600-1730 hrs	Geospatial Technology for climate change studies	Dr. Arijit Roy
19/11/2020	Thursdays	1600-1730 hrs	RS and GIS Applications in Soil Resource Management	Dr. Suresh Kumar
20/11/2020	Friday	1600-1730 hrs	Panel Discussion Module-3	All speakers

Date: 27/10/2020

To,

The Principal,

Dombivli Shikshan Prasarak Mandal's

K.V Pendharkar College of Arts, Science and Commerce,

Dombivli E.

**Subject: Permission to start Add on course in Apiculture**

Respected Sir,

This is to inform you that Zoology department proposes to start "Apiculture" as Add on course from the academic year 2020-2021. The course will be conducted once in two years. Our Laboratory will be used for conducting Practicals and demonstrations but we will require a classroom for lectures. The lectures will be arranged as per the availability of classroom.

We have also prepared a detailed Budget for running the course for ten years. The copy of which is attached

The immediate corpus required is Rs.10, 000/-.

I hereby request you to consider and grant us the permission to start the said course.

Thanking You,

As per order

Yours Sincerely,

Head, Department of Zoology

Chairman, Dombivli Shikshan  
Respected Sir, Prasarak Mandal  
per suggestion given by  
Dr. Vinayak Dalvi Sir, we request  
you to grant permission for add on  
course in Apiculture.

DOPH'S K.V. Pendharkar College, Dombivli	
Impar: 90	Date: 27/10/20
Principal: [Signature]	
Initial of Clerk: [Signature]	
(Principal)	
Name of the concerned staff member	



### Syllabus of Apiculture

Unit 1: Introduction: Study of Insects in general	3L
General features and Systematic position of Honey bee	
Unit 2: Commercially important species of Honey bee	2L
Life cycle of Honey bee.	
Unit 3: Social Life of Honey bee,	2L
Communication in Honey bee	
Unit 4: Role of Honeybee in Agricultural Ecology	2L
Honey bee as pollinator	
Unit 5: Methods of Beekeeping	3L
Traditional bee keeping, Modern Hive, Taking care of the Hive	
Equipment's used	
Unit 6: Diseases of Honey bee – Nosema disease, Acarine disease, Brood disease	2L
Colony Collapse Disorder	
Natural enemies of Honey bee	
Unit 7: Apiculture products	2L
Honey- types of honey and its uses	
Beeswax, Royal jelly, Bee venom, propolis	
Unit 8: Agencies involved in apiculture in India	2L

#### PRACTICALS:

1. Types of Honeybee
2. Study of mouth parts of honey bee and
3. Sting apparatus of honey bee.
4. Study of leg modifications and Beehive.
5. Estimation of protein from honey.
6. Qualitative test of honey.
7. Study of equipments in apiculture.
8. Observation of extraction of honey.
9. Two field visits.

**Note:- Duration of each practical –Three lectures**