



Miranda House UNIVERSITY OF DELHI

Departmental Annual Report- 3

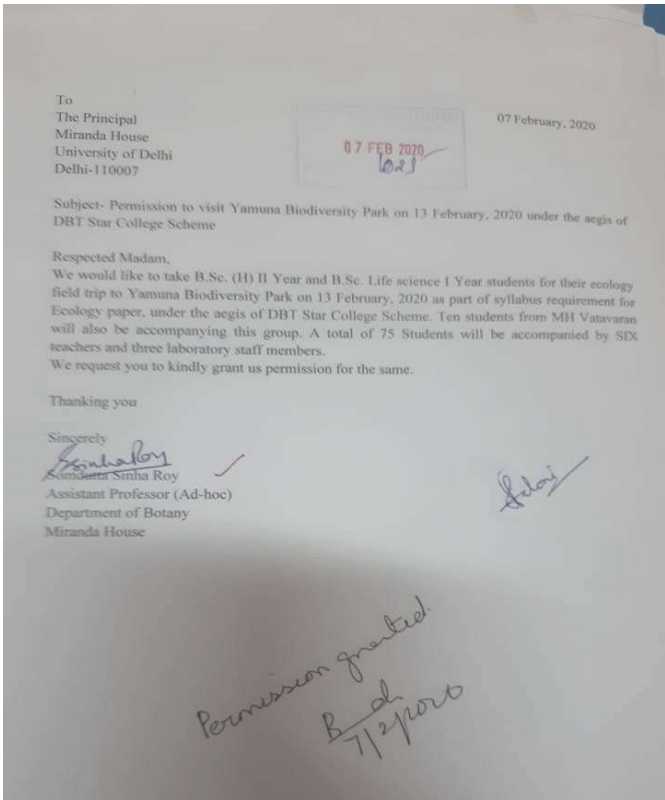
Departmental Activities: Curriculum and Beyond

Department: Botany

Academic Year: 2019-20 (1st July 2019 to 30th June 2020)

Part A.1

Students undertaking project work/field work/internship as part of experiential learning component of course work

S. No.	Paper: Ecology/ Systematics/ Environmental Management	
1	<p>Place of visit: Yamuna Biodiversity Park, Delhi (for Core Papers Ecology and Plant Systematics)</p> <p>Date: 13 February 2020</p> <p>Programme: B.Sc. (H) Botany II Year and Life Science 1 Year</p> <p>Course: Environmental Management</p> <p>No. of students: 67</p> <p>Accompanying teachers: Dr. Saloni Bahri, Dr. Somdutta Sinha Roy, Dr.</p>	



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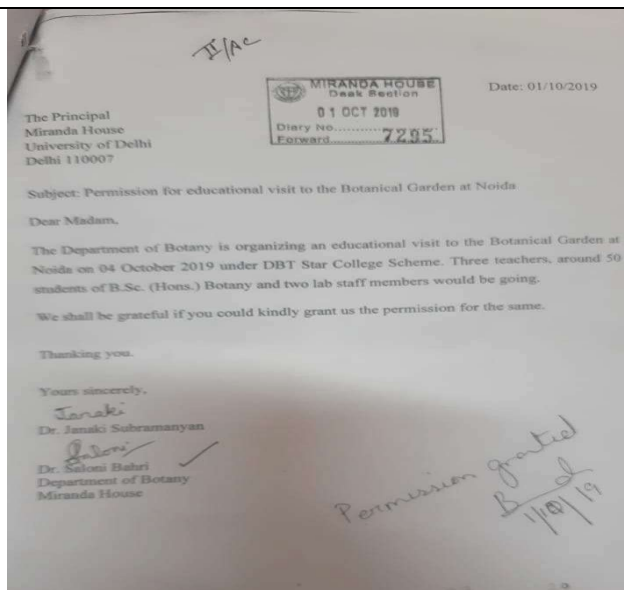
	<p>Rajeshwari, Dr. Veena Beri</p> <p>Objectives achieved:</p> <ol style="list-style-type: none"> 1. Field visit as per syllabus 2. Learnt about establishment and importance of wetlands 3. Learnt about how each plant community develops and then attracts different animals to the community 	
2.	<p>Place of visit: Botanic Garden of Indian Republic, NOIDA, Uttar Pradesh</p> <p>Date: 04 October 2019</p> <p>Programme: B.Sc. (H) Botany I, II and III Year</p> <p>Course: Environmental Management</p> <p>No. of students: 50</p> <p>Accompanying teachers: Dr. Janaki Subramanyan, Dr. Somdutta Sinha Roy, Dr. Rajeshwari</p> <p>Objectives achieved:</p> <ol style="list-style-type: none"> 1. Field visit as per 	<p>Request for a Visit</p> <p>The screenshot shows an email from Janaki Subramanyan (Associate Professor, Department of Botany, Miranda House) to Dr. Sandeep Kumar Chauhan (HOD) at the Botanic Garden of Indian Republic, Noida. The email is dated Sun, Aug 11, 2019, 11:26 AM. The subject is 'Request for a Visit'. The body of the email reads: 'Greetings from Miranda House! We would like to organize an educational visit to your Botanic Garden for our students of B.Sc. who study plant diversity. We would like a scientist or a staff member to take us round the Garden so that the students can learn and take down notes. Please let us know when we can come. Thursdays and Fridays suit the class. We would like to avoid 23 August because the students have their Freshers' Welcome. Thanking you, yours sincerely, Janaki, Dr. Janaki Subramanyan, Associate Professor, Department of Botany, Miranda House.'</p>



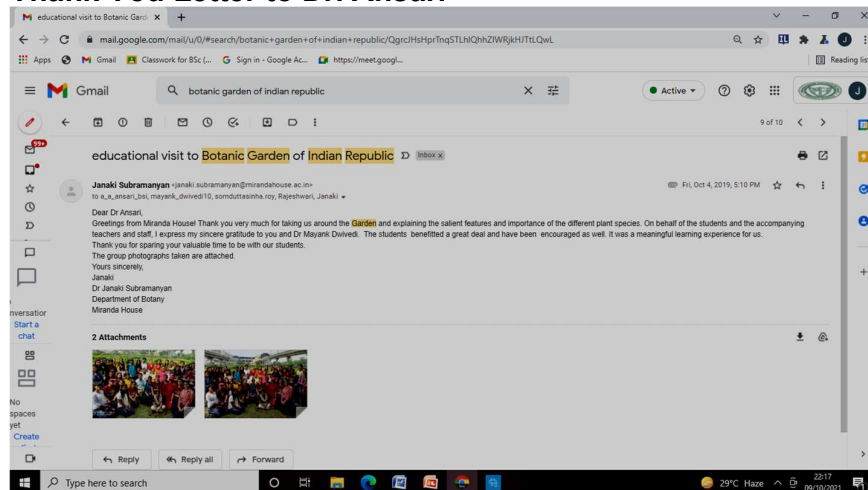
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syllabus

2. Detail exposure to various important medicinal and fruit plants growing in the Botanic Garden



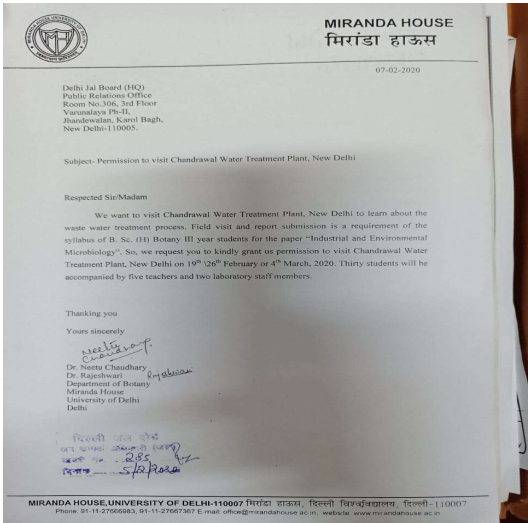


Thank You Letter to Dr. Ansari





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S. No.	Paper: Ecology/ Systematics/ Environmental Management	
3.	Place of visit: Chandrawal Water Treatment Plant (Chandrawal Water Works No. II), Delhi Jal Board (for DSE Paper Industrial and Environmental Microbiology) Date: 26 February, 2020 Programme: B.Sc. (H) Botany III Year Course: Industrial & Environmental Microbiology	Permission Letter 



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No. of students: 29

Accompanying

teachers: Dr. Janki Subramanyan, Dr. Madhu Bajaj, Dr. Deepali. Dr. Neetu Chaudhary & Dr. Rajeshwari .

Objectives achieved:

1. Field visit as per syllabus
2. Gave the students an overview of various methods and stages of water treatment before its release as municipal water supply.



S. No.	Paper: Biofertilizers (SEC)	
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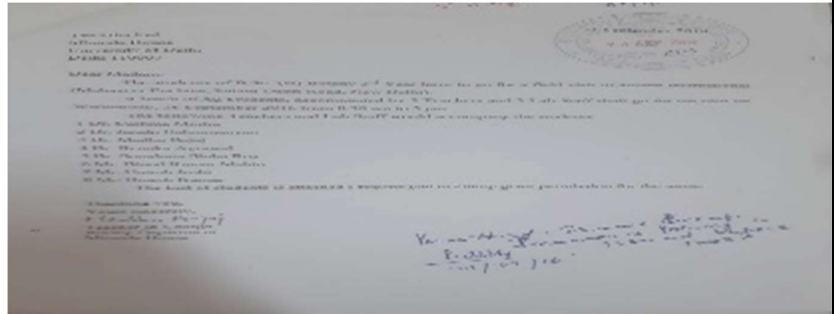
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4	<p>Place of visit: Division of Microbiology, Indian Agricultural Research Institute (IARI) (for SEC Paper Biofertilizers)</p> <p>Date: 24 February 2020</p> <p>Programme: B.Sc. (H) Botany II Year</p> <p>No. of students: 28</p> <p>Accompanying teachers: Dr. Elangbam Geetanjali, Dr. Deepali, Dr. Neetu Chaudhari, Dr. Neha Maan</p> <p>Objective achieved:</p> <ol style="list-style-type: none"> 1. Field visit as per syllabus 2. Hands-on training on composting 3. Learnt about the cultivation of <i>Azolla</i> 4. Learnt about the importance of biofertilizers 5. Learnt large scale production of vermicompost by windrow method and its application in field. 	<p>Visit was confirmed telephonically.</p> <p>List of Students--Visit to IARI in 2020</p> <p>B.Sc. (H) Botany II Year (2019-20)</p> <table border="1"> <thead> <tr> <th>S. No.</th><th>Roll No.</th><th>Name</th></tr> </thead> <tbody> <tr><td>1</td><td>1535</td><td>Parul</td></tr> <tr><td>2</td><td>346</td><td>Aarohi Rawat</td></tr> <tr><td>3</td><td>29</td><td>Akshita Solanki</td></tr> <tr><td>4</td><td>1224</td><td>Ashmita</td></tr> <tr><td>5</td><td>264</td><td>Bharti Singh</td></tr> <tr><td>6</td><td>1369</td><td>Choo Choo Gulshan Fatima</td></tr> <tr><td>7</td><td>643</td><td>Diksha Patel</td></tr> <tr><td>8</td><td>384</td><td>Divya Jaitak</td></tr> <tr><td>9</td><td>872</td><td>Jyoti</td></tr> <tr><td>10</td><td>1267</td><td>Jyotsana</td></tr> <tr><td>11</td><td>18</td><td>Kriti Choudhary</td></tr> <tr><td>12</td><td>258</td><td>Laiba Fatima</td></tr> <tr><td>13</td><td>197</td><td>Madavi Sarika</td></tr> <tr><td>14</td><td>871</td><td>Mamta</td></tr> <tr><td>15</td><td>971</td><td>Meghana Mariam Mathew</td></tr> <tr><td>16</td><td>642</td><td>Muskaan Johnson</td></tr> <tr><td>17</td><td>405</td><td>Namindla Bhargavi</td></tr> <tr><td>18</td><td>510</td><td>Neeraj Kumari</td></tr> <tr><td>19</td><td>954</td><td>Pallavi Sharma</td></tr> <tr><td>20</td><td>1428</td><td>Pooja</td></tr> <tr><td>21</td><td>302</td><td>Pragya Jha</td></tr> <tr><td>22</td><td>1513</td><td>Rakhi</td></tr> <tr><td>23</td><td>837</td><td>Shweta Rana</td></tr> <tr><td>24</td><td>20</td><td>Swati Nayak</td></tr> <tr><td>25</td><td>565</td><td>Tamanna Yadav</td></tr> <tr><td>26</td><td>190</td><td>Vankudothu Swathi</td></tr> <tr><td>27</td><td>992</td><td>Yumnam Sonata Devi</td></tr> <tr><td>28</td><td>1422</td><td>Saifali Dhyani</td></tr> </tbody> </table> <p><i>E. Geetanjali</i> Dr. Elangbam Geetanjali</p> <p>Dr. Deepali</p>	S. No.	Roll No.	Name	1	1535	Parul	2	346	Aarohi Rawat	3	29	Akshita Solanki	4	1224	Ashmita	5	264	Bharti Singh	6	1369	Choo Choo Gulshan Fatima	7	643	Diksha Patel	8	384	Divya Jaitak	9	872	Jyoti	10	1267	Jyotsana	11	18	Kriti Choudhary	12	258	Laiba Fatima	13	197	Madavi Sarika	14	871	Mamta	15	971	Meghana Mariam Mathew	16	642	Muskaan Johnson	17	405	Namindla Bhargavi	18	510	Neeraj Kumari	19	954	Pallavi Sharma	20	1428	Pooja	21	302	Pragya Jha	22	1513	Rakhi	23	837	Shweta Rana	24	20	Swati Nayak	25	565	Tamanna Yadav	26	190	Vankudothu Swathi	27	992	Yumnam Sonata Devi	28	1422	Saifali Dhyani
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Part A.2

Students undertaking project work/field work/internship (beyond the requirements of coursework)

MIRANDA HOUSE
University of Delhi

Flavour of Research
Investigative Projects in Multidisciplinary Contexts

Summer Workshop
(June – July 2020)

Orientation Program
Date: 30 June 2020
11.00 am onwards

Prerequisite: Zoom Application
Join Zoom Meeting
<https://zoom.us/j/98886335809?pwd=TWQ1ZlkrdUhCdGdmTkFCQmVHREhIdz09>
Meeting ID: 988 8633 5809
Password: 7b3uQj

Programme name	Programme Code	Name of the students
	DSKC Summer Internships 2020	
B.Sc. Life Science II Year, Miranda House (Mentors: Dr. Janaki Subramanyan and Dr. Neetu Chaudhary)	Project 1 Project title: Bt Cotton In India 2020	1. Aanchal 2. Amisha 3. Sakshi Mehta
B.Sc. Life Science II Year, Miranda House (Mentors: Dr. Janaki Subramanyan and Dr. Neetu Chaudhary)	Project 2 Project title: Management Of Insect Pests Of Pulse Crops In India	1. Preeti Pawar 2. Shivani Kumari
B.Sc. (H) Botany II Year,	Project 3	1. Pooja Sheoran



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Miranda House (Mentors: Dr. Madhu Bajaj and Dr. Renuka Agrawal)	Project title: SARS-Cov 2: A Survey Based Study	2. Bharti Singh 3. Laiba Fatima 4. Jyotsana
B.Sc. (H) Botany I Year, Miranda House (Mentors: Dr. Saloni Bahri and Dr. Somdutta Sinha Roy)	Project 4 Project title: Review Article On <i>Selaginella bryopteris</i> - The Sanjeevani Booti	1. Prachi Choudhary 2. Shreya Pandey
B.Sc. (H) Botany I Year, Miranda House (Mentors: Dr. Saloni Bahri and Dr. Somdutta Sinha Roy)	Project 5 Project title: Effect Of Carbohydrates On Pollen Of <i>Catharanthus roseus in vitro</i> -A Review	1. Preeti Gupta 2. Anjali Karan
B.Sc. (H) Botany II Year, Miranda House (Mentors: Dr. Saloni Bahri and Dr. Somdutta Sinha Roy)	Project 6 Project title: A Review On Plant Species Identified For Mitigating Particulate Matter	1. Shweta Rana 2. Ashmita Bhagat
B.Sc. (H) Botany II Year, Miranda House (Mentors: Dr. Saloni Bahri and Dr. Somdutta Sinha Roy)	Project 7 Project title: Plant Species Resistant To Sulphur Dioxide Pollution-A Review	1. Pallavi Sharma 2. Pragya Jha
B.Sc. Botany (H) II Year, Miranda House B.Sc. Life Science II Year, Miranda House (Mentors : Dr. Deepali and Dr. Rajeshwari)	Project 8 Project title: Online Review: Adulteration In Food And Its Impact On Health: An Indian Scenario	1. Swati Nayak 2. Muskan Johnson 3. Balwant Kaur 4. Garima Singh
	DBT Star College Scheme Projects 2020	
B.Sc. Life Science II Year,	Project 1	1. Disha Chaudhary



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<p>Miranda House</p> <p>(Mentors: Dr. Janaki Subramanyan and Dr. Neetu Chaudhary)</p>	<p>Project title: Pollen As A System To Study The Effects Of Insecticides</p>	<p>2. Preeti Pawar</p> <p>3. Shivani Kumari</p>
<p>B.Sc. (H) Botany III Year, Miranda House</p> <p>(Mentors: Dr. Madhu Bajaj and Dr. Renuka Agrawal)</p>	<p>Project 2</p> <p>Project title: Cytotoxic Effect of Antibiotics on Plant Root Meristem Cells.</p>	<p>1. Akanksha Tripathi</p> <p>2. Kanika Thakur</p> <p>3. Prity</p> <p>4. Mangesh</p> <p>5. Monika</p> <p>6. Sulochana Meena</p>
<p>B.Sc. (H) Botany II Year, Miranda House</p> <p>B.Sc. Life Science II Year, Miranda House</p> <p>(Mentors: Dr. Saloni Bahri and Dr. Somdutta Sinha Roy)</p>	<p>Project 3</p> <p>Project title: Identification Of Plant Species Suitable For Mitigating Air Pollution In Delhi University</p>	<p>1. Shweta Rana</p> <p>2. Ashmita Bhagat</p> <p>3. Pallavi Sharma</p> <p>4. Pragya Jha</p> <p>5. Gunjan</p>
<p>B.Sc. (Hons.) Botany III Year, Miranda House</p> <p>B.Sc. Life Science III Year, Miranda House</p> <p>(Mentors: Dr. Rashmi Shakya and Dr. E. Geetanjali)</p>	<p>Project 4</p> <p>Project title: Cytochemical Features And Structural Investigation Of Different Developmental Stages Of <i>Catharanthus Roseus</i> Pistil (Project completion pending due to pandemic)</p>	<p>1. Jyotsana</p> <p>2. Laiba Fatima</p> <p>3. Manasa Sanaga Reddy</p>
<p>.Sc. (Hons.) Botany III Year, Miranda House</p> <p>B.Sc. Life Science III Year, Miranda House</p> <p>(Mentors: Dr. Deepali and Dr. Rajeshwari)</p>	<p>Project 5</p> <p>Project Title: "Extraction of Heavy Metals From Green Leafy Vegetables And Its Impact on Human Health"</p>	<p>1. Swati Nayak</p> <p>2. Muskan Johnson</p> <p>3. Balwant Kaur</p> <p>4. Garima Singh</p>



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COURSE BASED PROJECT (Experiential Learning)

Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Year of offering	Name of the student studied course on experiential learning through project work/field work/internship
B.Sc. (Honours) Botany II Year, Semester III	556	Intellectual Property Rights (SEC)	UPC-32163302	2019	28 Students
B.Sc. (Honours) Botany II Year, Semester IV	556	Biofertilizers (SCE)	UPC-32163403	2020	28 Students
B.Sc. (Honours) Botany III Year, Semester V	556	Biostatistics (DSC-2)	UPC-32167502	2019	29 Students
B.Sc. Life Science III Year, Semester VI	583	Intellectual Property Rights (SEC-4)	UPC-42163601	2020	33 Students

Academic Year	2019-2020
Program name	B.Sc. (H) Botany
Program Code	556
Name of the Paper that include experiential learning through project work	Intellectual Property Rights (SEC)
Unique Paper Code	32163302
Year	II year
Semester	III
Total no. of students	28

Projects Completed

Individual projects had to be done as part of the practical curriculum for the paper Intellectual Property Rights. Students had made e-diary based on IPR syllabus. They had presented their project's reports in the form of Power Point Presentation. It was evaluated on the basis of contents and Subject knowledge related to the e-diary. The subject of projects was opted by student itself and they have collected data from available sources of society and market. They had to click the pictures of the products themselves. Google photos of the products were not allowed. They had discussed their data under the headings of Patent, Copyright, Designing, Manufacturing, Production, Trademark, GI tag etc.

E Gutanjali *Deepali*

B.Sc. (H) Botany II Year (Semester III) 2019-20

S. No.	Roll No.	Name
1	1591	Pooja
2	146	Aarohi Rawat
3	29	Aishita Solanki
4	1224	Ashmita
5	264	Bharti Singh
6	1369	Choo Choo Gulshan Fatima
7	643	Diksha Patel
8	188	Divya Jattak
9	872	Jyoti
10	1267	Jyotsana
11	18	Kirti Choudhary
12	278	Ladla Fatima
13	197	Muskan Sarika
14	871	Narisha
15	871	Raghavani Mariam Mathew
16	642	Muskan Inamori
17	608	Ramendra Bhargava
18	510	Neeraj Kumar
19	994	Pallavi Sharma
20	1428	Pooja
21	302	Pragya Raa
22	1511	Rishi
23	837	Shweta Rana
24	20	Shweta Nayak
25	545	Tamanna Yadav
26	190	Vinodkumar Swathi
27	992	Yumnam Sonata Devi
28	1412	Shruti Dhillon

Deepali



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Academic Year	2019-2020
Program name	B.Sc. (H) Botany
Program Code	556
Name of the Paper that include experiential learning through project work	Biofertilizers (SEC)
Unique Paper Code	32163403
Year	II Year
Semester	IV
Total no. of students	28

Projects completed

Commons Project had to be done as part of the practical curriculum for the paper Biofertilizers. The Project title was "Isolation and Characterisation of *Rhizobium* from root nodules of different plant species (*Trigonella* sp. and *Melilotus* sp.)" and report were submitted in hard copy. Students were divided in to the groups based on the different plant species used and their evaluation had done by how well they had represented the data. They had studied the growth and development of bacterial colonies, frequency and its morphology in the root nodules. They had discussed their collected data on the basis of various published articles.

E. Gutierrez

Deepali

B.Sc. (H) Botany II Year (Semester IV) 2019-20

S. No.	Roll No.	Name
1	140	Aarohi Rawat
2	29	Aishika Salanki
3	1224	Ashmita
4	284	Bhavita Singh
5	1389	Choo Choo Gulshan Fatima
6	643	Diksha Patel
7	584	Disha Jaiswal
8	872	Jyoti
9	1207	Jyotsna
10	18	Kirti Choudhary
11	258	Lakshya Fatima
12	153	Maharaj Sarika
13	871	Neha
14	971	Nishang Marim Mathew
15	647	Shubham Jaiswal
16	403	Shreya Bhargava
17	510	Soumya Ramani
18	954	Prachi Sharma
19	1535	Pooja
20	1438	Pooja
21	302	Pragya Jha
22	1513	Rishi
23	1472	Sarita Chyapari
24	837	Shreya Rana
25	30	Swati Nayak
26	583	Tamanna Vaidya
27	130	Vandana Senthil
28	982	Vishnu Sonata Desai

Deepali



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Academic Year	2019-2020
Program name	B.Sc. (H) Botany
Program Code	556
Name of the Paper that include experiential learning through project work	Biostatistics (DSC-2)
Unique Paper Code	32167502
Year	III year
Semester	V
Total no. of students	29

Projects completed

Individual projects had to be done as part of the practical curriculum for the paper Biostatistics. The project report had to be submitted in the the form of power-point presentations and orally presented in the class. Students are evaluated on the basis of how well they have applied different aspects of statistical analysis to the data that they have collected. Each student is expected to collect data from within the college campus (minimum 100 data points) and analyse the data for different measures of central tendencies like mean, median, mode, perform students t-test and find out correlation between two variables. They are expected to formulate their own hypothesis and then accept or reject the same based on their calculations.

Each student had collected the data individually and randomly. Their project topics ranged from a study of marks obtained v/s hours of study; number of chapattis eaten in a day v/s weight of the individual; Pocket money v/s deodorant brand used etc to laboratory based studies like salt concentration v/s plant height, nitrogen concentration v/s plant weight etc.

Sinha Roy

B.Sc. (H) Botany III Year (Semester V) 2019-20

S. No.	Roll No.	Name
1	539	AADYANIL PRASAD
2	391	ADITI SONI
3	110	AKANKSHA TRIPATHI
4	373	AMISHA GUPTA
5	187	ANIL DEEPTI MATHI
6	1272	ANIL NIDHA
7	1063	ANURADHA NARWAL
8	135	ASHIMA GUPTA
9	155	GUNJAN
10	158	KANCHAN
11	671	KANAKA THAKUR
12	941	KRITI
13	1251	LEKHANA
14	330	MANGESH
15	1341	NANDIA
16	405	NANDINI DAS
17	323	POONAM
18	1718	PRANALI AGRAWAL
19	333	PRITI
20	646	SANSHI YADAV
21	1213	SHAMLI
22	126	SHIKHA DALAL
23	611	SHIVANI GAUR
24	301	SHREYA BHARDWAJ
25	1218	SHREYA SHARMA
26	1410	SOURYA
27	293	SULUCHANA MEENA
28	35	VARTIKA SINGH SOLANKI
29	3000	YAMINI GIRI GOYANANI



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Academic Year	2019-20
Paper Name	SEC 4: Intellectual Property Rights
Unique Paper Code	42163601
Course	B.Sc. Life Sciences
Programme Code	583
Year	III Year
Semester	VI
Total no. of students	33

Projects completed

Individual IPR e-diary had to be submitted as part of the practical examination for the paper Intellectual Property Rights which is a skill enhancement paper. Students selected topics of their choice from the syllabus such as GI Industry, Copyright, Trademark, GI Food, and others. Google photos of the products were not allowed. They had to click the pictures of the products themselves. Students were evaluated based on the product selected by them and the content including number of samples and their original photographs.

Sr. No.	Course Code	Paper Code	Student Name	College Roll no.
1	583	42163601	ADITI YADAV	1064
2	583	42163601	ANALI	810
3	583	42163601	ANUSHKA MUNA	1032
4	583	42163601	ANUSH AGRWAL	100
5	583	42163601	ANUSHKA SHARMA	1236
6	583	42163601	ANUSHKA SHUKLA	176
7	583	42163601	ARCHI MAHMOOD	1290
8	583	42163601	BHAVANA CHOLDHARY	273
9	583	42163601	CHHAVI	142
10	583	42163601	DIBSHA	455
11	583	42163601	FIZA HAMID	1029
12	583	42163601	FREEDA LALMIAMPUR SAUL	1298
13	583	42163601	GARIMA CHAUHAN	793
14	583	42163601	HRIYSH MANCHANDA	894
15	583	42163601	KANAKA CHUTANI	26
16	583	42163601	MANASA REDDY SANAGA	30
17	583	42163601	MANASWI GUPTA	997
18	583	42163601	MANVI	980
19	583	42163601	NAVNEET KAUR	143
20	583	42163601	NEHA DIXIT	117
21	583	42163601	NIDHI	213
22	583	42163601	PAYYAVUJA RAGINI	806
23	583	42163601	POORVA GOLA	936
24	583	42163601	PRAGYA KAMAL	1184
25	583	42163601	PREETI KUMARI	1060

26	583	42163601	RENUKA MAHAJY	1006
27	583	42163601	RITIKA CHAUDHARY	121
28	583	42163601	SHANZADI	141
29	583	42163601	SHAYRA	1059
30	583	42163601	STANZIN ZANGMO	1306
31	583	42163601	SUDHA YADAV	1116
32	583	42163601	VANSHIKA MAHAJAN	1457
33	583	42163601	PENGKHOM SONIA DEVI	1119

Teacher's Signature: