



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

3.7.2: NUMBER OF FUNCTIONAL MOUS WITH INSTITUTIONS OF NATIONAL, INTERNATIONAL IMPORTANCE

Additional Information:

❖ 2019–20

- Beit Berl College, Israel
- Centre for Social Action, Mumbai, India
- Phoenix Progressive Certifications Enterprise Pvt Ltd, Pune, India
- Red Dot Foundation, Canada
- Tata Consultancy Services Pvt Ltd, India

❖ 2018–19

- Centre for Environmental Research and Education, Mumbai, India
- Phoenix Progressive Certifications Enterprise Pvt Ltd, Pune, India
- Rajarshi Shahu College, Latur, India
- Sahabgag, Social Responsibility Cell, Chief Minister's Office, Government of Maharashtra, India

❖ 2017–18

- Centre for Environmental Research and Education, Mumbai, India
- Department of Botany, Satish Pradhan Dnyansadhana College, Thane, India
- G.M. Momin's Women's College, Bhiwandi, India
- Natural History Museum, London, UK



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

**5, Mahapalika Marg, Mumbai - 400 001,
INDIA.**

☎ 2262 0661/65

❖ **2016-17**

- Phoenix Progressive Certifications Enterprise Pvt Ltd, Pune, India
- St. Xavier's College, Jaipur, India

❖ **2015-16**

- Phoenix Progressive Certifications Enterprise Pvt Ltd, Pune, India



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

**5, Mahapalika Marg, Mumbai - 400 001,
INDIA.**

☎ 2262 0661/65

2019 – 2020



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

REPORT ON COLLABORATIVE RESEARCH MOU WITH BEIT BERL COLLEGE, ISRAEL

RESEARCH RELATED MOU SIGNED (DURING LOCKDOWN May 2020) initiated by Devika Mehta Program Head and Faculty, P.G. Diploma Program in Expressive Arts Therapy Psychology Department, St. Xavier's College, Mumbai.

The MOU allows collaboration on a cross-cultural art therapy research study, conducted during covid-19 pandemic's first lockdown in Israel and India. The initiative connected two countries—a collaboration between Beit Berl College, Israel and St. Xavier's college, Mumbai, India. There were 26 participants for the study, 13 students from the disciplines of art and expressive arts therapies from each country. The research included five stages of semi-structured art guidelines and questions that the researchers sent to the participants. The presentation will focus on the methodology and the importance of art therapy in the times of the global pandemic. Evidence from each country will be shared to support the methodology and for using arts as a therapeutic process in these times of uncertainty.

Title: Strengthening resilience via distance guided art in response to the global pandemic: An art therapy cross cultural research study between Israel and India.

Authors: Honig, O., Chakrabarti, O., Mehta Kadam, D., Ram-Vlasov, N.

Author Information

Dr Ofira Honig (PhD)
Art Psychotherapist
Tenured senior lecturer
Head of the Art Therapy Department
Head of the Master program in Art Therapy
Head of the Art Therapy research centre
Hamidrasha-Faculty of Arts
Beit Berl Academic College, Israel
Oihika Chakrabarti (PhD Candidate)
Art Psychotherapist (Rath, UK)
Visiting Faculty
P.G. Diploma Program in Expressive Arts Therapy
Psychology Department
St. Xavier's College (Autonomous), Mumbai
Co-Founder & Chairperson
The Art Therapy Association of India
Devika Mehta Kadam
Dance Movement Psychotherapist (R-DMP: ADMPUK, IADMT)
Program Head and Faculty,
P.G. Diploma Program in Expressive Arts Therapy
Psychology Department



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

St. Xavier's College (Autonomous), Mumbai.
Founding Board Member and Treasurer
The Indian Association of Dance Movement Therapy
Dr. Neta Ram-Vlasov (PhD)
Art Psychotherapist
Head of the Master program in Art Therapy for Psychotherapists
Hamidrasha-Faculty of Arts
Beit Berl Academic College, Israel



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

DEPARTMENT OF MANAGEMENT STUDIES BMS

DEPARTMENT CENTRIC SIP 2019

FYBMS OF THE BATCH OF 2019-2022



Department Centric activity were coordinated by the department and the team from Centre for Social Action.

The Department Centric SIP for BMS for the year 2019-2020 was a very successful exercise as our FY students helped in creating a market for the homemade snacks made by the Tribal village folk from the district of Raigad.

The students had helped in setting up stalls and also went out of their way in selling the products to the Parishioners of Various churches in Mumbai. This was a very good initiative and it was done during/after the morning and evening mass. The association of the Department with CSA (Centre for Social Action) during the Academic Year 2019-2020 gave us the opportunity to help in the generation of funds for the village folk.

Please find below a few glimpses and snapshots of the Department Centric SIP Activities for the Academic Year 2019-2020




1. Aashima Jain

Location: St. John the Baptist Church, Thane. Date of Dept. SIP: 01-12-2019

I was introduced to the Centre for Social Action which enables the deprived communities of tribals to be independent and gives them effective training in making food items from naturally & locally available raw materials. I was given the duty of selling the organic food items which were made by the tribals of Raigad using natural raw materials. The products weren't cheap and yet everyone was extremely generous and polite and happily made purchases of large amounts so as to help the people. It is also worth a mention that the products sold were also of very good quality and was definitely worth the money spent.



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

2. Kenny Ninan and Melvyn Brodie

Location: St. John the Baptist Church, Thane. Date of Dept. SIP: 30/11/19

We helped them set up the stall. The stall was set in front of the high school where there was a program going on. There were different types of laddus, papad, and many other Indian snacks. The evening went well and we sold a good number of things. We then packed the unsold items and helped them move it to a nearby building. It was a great hands-on experience selling items and meeting so many people.



3. Rachel Vaz

Location: St. Blaise Church, Andheri. Date: 16th November, 2019

We worked with Navjeevan Enterprises, a social organization which works for uplifting the tribals of Raigad through sustainable livelihoods. Our job was to help the people working for Navjeevan Enterprises sell their products made from organic materials. Considering 80% of the sales made go to charity, most people were very forthcoming.



4. Jeff Johnson and Pranay Checker

Location: St. John's the Baptist Church, Thane.

We started selling various food items made by the tribal women of Raigad. The food items included nachni papad, chakli, various pickles etc. The church members were enthusiastic to help and bought a lot of food items. All in all it was a very humbling and great experience which we thoroughly cherished.



5. Dorin Quadros

FYBMS

Location: St. Joseph Church, Mira road. Date:
23rd Nov, 2019

The purpose was to help the tribal people to gain an income through this sale. This made me realize that there are so many people out there who require help and thus it inspires me to help more people.



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

SOCIAL WORK

Social work at Xavier's has been the most fulfilling activity that we all look up to. From working on the Social Inclusion Programmes as a part of the course, to organizing services beyond the curriculum has been one of the most rewarding experiences for us.

- The Department has signed an *MoU with CSA (Centre For Social Action)* to collaborate with them in helping the people from the villages of the district of Raigad. The students of First Year BMS helped the NGO in selling homemade products by setting up stalls at various churches across the city. This helped in providing a market for the products made by the people of the village and helped them to generate an extra source of income.
- *Visit to the Kalote village in Kelavali (on the 27th of February 2020)* was an initiative by CSA as a part of its pilot project to promote rural tourism. CSA will be working in collaboration with the students of the Department of Management Studies in setting up the villages as a hub for budding social entrepreneurs and can also provide affordable natural resources that can be sold in the city of Mumbai. The names of the students who participated in the village visit: Shameek D'Silva and Sonali Das (Batch of 2018-2021)

Visit to the Kalote Village



Women from SHGs making eatables in CSA's FSSAI approved premises in Khopoli



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

**List of students who participated in the module on Clinical Data Management
conducted by Phoenix Progressive Certifications Enterprise Pvt Ltd
as a part of Diploma in Clinical Research at St. Xavier's College, Mumbai
during 2019-20**

Sr. No	Student Name
1	Aarti Bhatia
2	Abhisri Palan
3	Arnold Fernandes
4	Anamika Handsa
5	Chitanshi Singh
6	Divya Pareek
7	Gauri Gawas
8	Gauri Pansare
9	Krutika Venketesh
10	Maanasi Marathe
11	Mahvash Shaikh
12	Megha Shah
13	Nanda Aier
14	Nanda Hatti
15	Pooja Chouhan
16	Pratikha Kadam
17	Roshni Syed
18	Safna Dadina
19	Sapna Khadka
20	Sayali Kalokhe
21	Sheryl Alphanso
22	Sumit Panday
23	Susan Thomas
24	Swati Patil
25	Trupti Ingale
26	Vishal Mahal
27	Vishal Shah



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

Certificate Of Participation

This certificate is presented to

St. Xavier's College, Mumbai

for participating in the
Safe College Campus program as part of
the Canada Fund for Local Initiatives
by the Government of Canada

Activity supported by the
Canada Fund for Local Initiatives
Activité réalisée avec l'appui du
Fonds canadien d'initiatives locales

Canada

safetycity
www.safetycity.in

Red Dot
Foundation





ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

A Report on Collaboration of St. Xavier's College with Red Dot Foundation (2019-20)

St. Xavier's College and Red Dot Foundation signed an agreement in the academic year 2019-20 for conducting the Safe Campus programme. The primary objective of Red Dot Foundation, in partnership with the Government of Canada, was to create safe campuses in twenty colleges in Maharashtra, India, through awareness workshops, training of youth leaders and sensitizing faculty and administration on legislation and safety measures.

A team of five students: Durga Yesade (FY BA), Rutul Garge (FY BSc), Naitik Jain (FYBMS), Abraham Austin (FY JC) and Janhavi Deshpande (FY JC) were selected to attend the three-day training workshop from 21st to 23rd November 2019 at India Bulls Tower, Parel, where they were made aware of the different types of issues related to gender that may come up in an academic space and introduced to measures to address the same. Important laws like POSH (Prevention of Sexual Harassment of Women at the Workplace) and POCSO (Protection of Children Against Sexual Offences) were explained to them as well.

The team actively and effectively conducted seven audits in the college campus - on 'Cyber security' and 'Safety while travelling'. They also discussed and deliberated with their peers regarding problems that they may have experienced within the campus. As an extension of the programme, the CEO of the foundation (Ms. Elsa Marie) conducted a workshop for faculty on Gender Sensitization. The analysis of the feedback speaks much about the quality and acceptability of the matter discussed.

For the concluding event held on February 22nd, 2020 a street play named 'Goonj Buland Awazon Ki' was performed by our students and was very well appreciated by members of the foundation as well as college students and staff who attended the program.

Activity 1

Name of the activity: Cybersecurity and Us

Date of activity: 31st January 2020

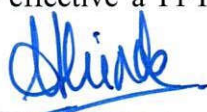
Number of Direct Beneficiaries: 43 students

Male/ Female Count: 8 males, 35 females

Activity description: The Youth Leaders of St. Xavier's College held a workshop for the TYBA Literature class. A brief session on Cyber Safety was conducted in which the students were informed about dangers related to social media and how they can be safe. Later a Digital Risk Assessment survey was conducted on cyber safety to check how safe the students were. The response was fairly good, with few of them enquiring about the experience of the Youth Leaders at Safe Campus Workshops. They were given a short introduction to the Red Dot Foundation and the Safecity app (created by Red Dot Foundation) following which the students shared some of their experiences with regards to cyberbullying and a discussion was held on how to ensure safety on the internet. To make the session more effective a PPT presentation was used.



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

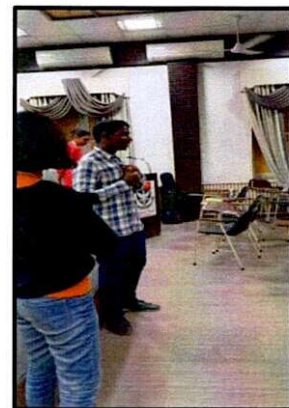
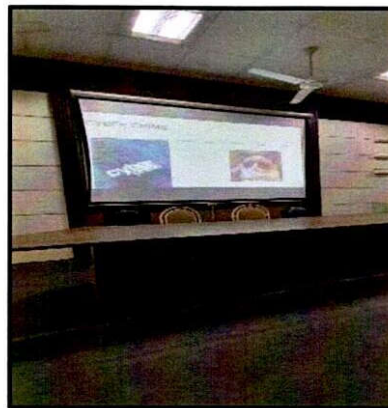
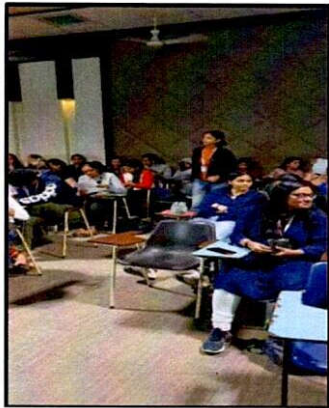
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

A social media handle named @safecampus_sxc was created on Instagram to publicize the activities on gender sensitization that were going to be conducted in the college campus.

The tags used: #CFLI #SafeCampusProgram #CFLI2019 #Safecity #RedDotFoundation #Safety #SafeCities #SafeCity #SafeCampus #YouthLeaders #SafecityAudits #SafetyforAll #PinTheCreep #SafeInstitutions #SafecityWorkshops #safecampus #RighttoSafety #SDG5 #SDG11

Stills from the presentation:



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Activity 2

Name of the activity: Cybersecurity and Us

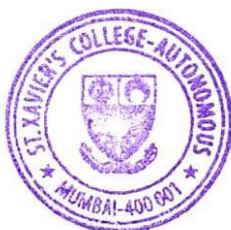
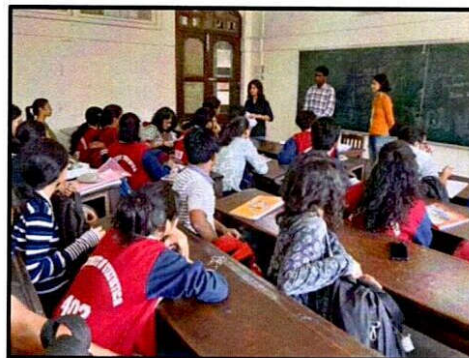
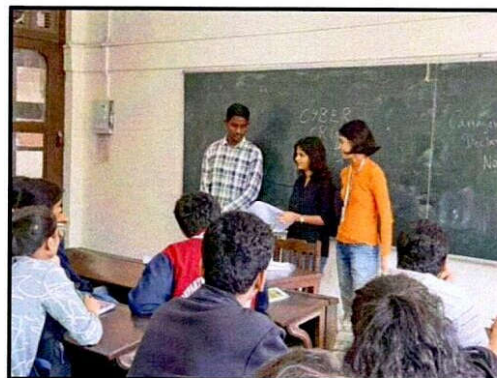
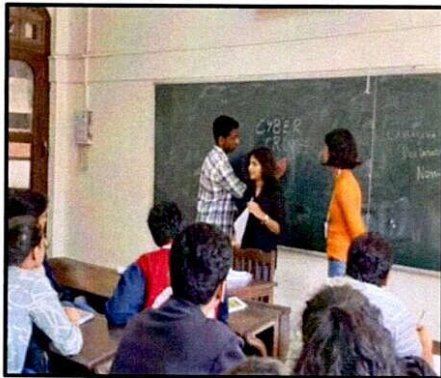
Date of activity: 31st January 2020

Number of Direct Beneficiaries: 29 Students

Male/Female Count: 9 males, 20 females

Activity Description: The second group of students were the TYBSc Statistics class in which a similar session on Cyber safety was conducted, followed by the Digital Risk Assessment survey which was conducted to check the safety quotient of the students on the internet. Once again, they were initiated into the Safecity app and they shared their experiences while travelling etc.

Stills from the session:



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

Activity 3

Name of the activity: Cybersecurity and Us

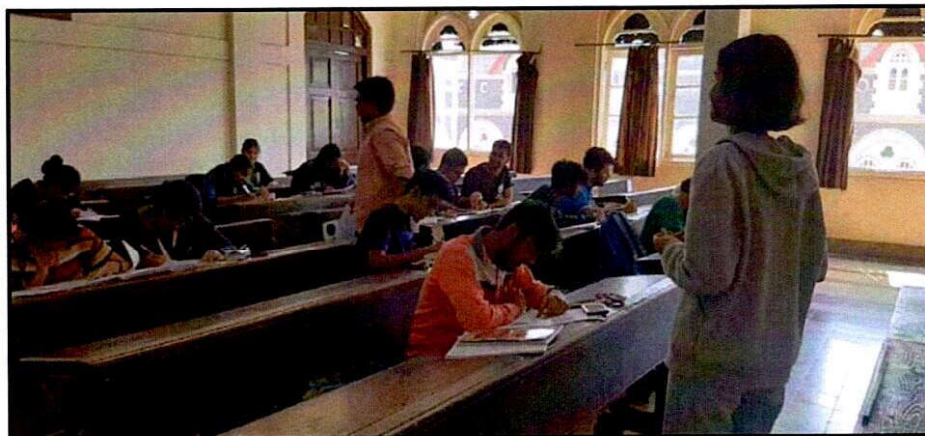
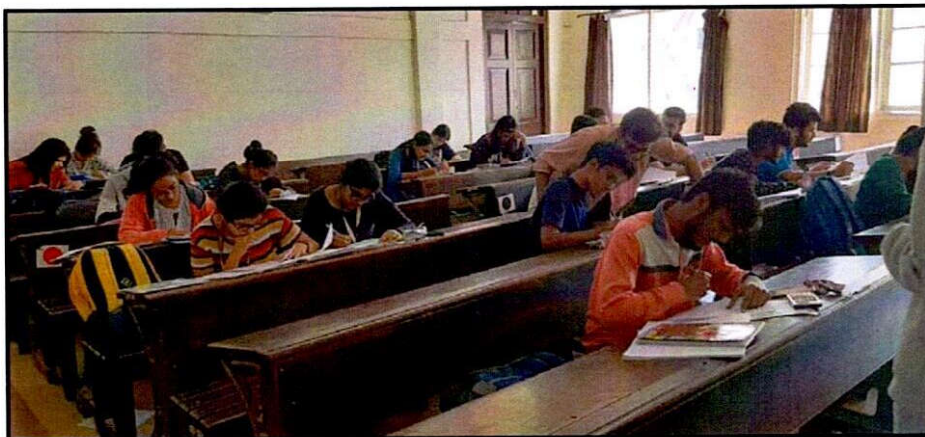
Date of activity: 31st January 2020

Number of Direct Beneficiaries: 25 students

Male/Female Count: 11 males, 14 females

Activity Description: The last activity was conducted in the SYBSc Mathematics class wherein they held a discussion on Cyber safety, assessed the digital safety level of the students using the Digital Risk Assessment survey. Lastly a brief introduction on the organization followed by the use of the Safecity app was shared with the students. Once again, the Youth Leaders engaged in a very productive discussion on gender sensitivity ending with the students sharing their experiences on the aforementioned topics.

Stills from the session:



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Faculty Workshop

A gender sensitization workshop for faculty members of the college was organized in SCAVI on January 31st 2020 at 2pm which was attended by 41 teaching staff. The CEO of Red Dot foundation conducted a two- hour session discussing and addressing key differences regarding sex and gender that the modern teaching fraternity should be aware of. A few concerns were raised regarding the various problems that both staff and students may encounter in their daily lives and Ms. Elsa gave some practical solutions to those problems and also discussed the POSH and POSCO Acts which are extremely relevant to the context and thus important for stakeholders to be aware of its usage. She also identified social stereotyping as an important cause of the problems relating to sex and gender roles that individuals are expected to abide by rather than being allowed to make an informed choice based on their preferences.

A feedback form was circulated as a Google docs to faculty who had participated. Twenty nine participants responded. The analysis indicates that the partakers were satisfied with the session and it was well appreciated. A detailed analysis of the same is attached.


Gender Sensitization Workshop Feedback Analysis

(31/01/2020)

	Excellent	Very good	Good	Average	Needs improvement
Goals of the session were clearly outlined	7	5	6	4	1
Presentation was organized/coherent	5	5	7	5	1
Resource person was well prepared	9	2	7	3	2
Resource person could engage the participants	7	4	7	3	2
In the interactive session, the resource person could respond to the questions and comments satisfactorily.	7	7	4	5	0



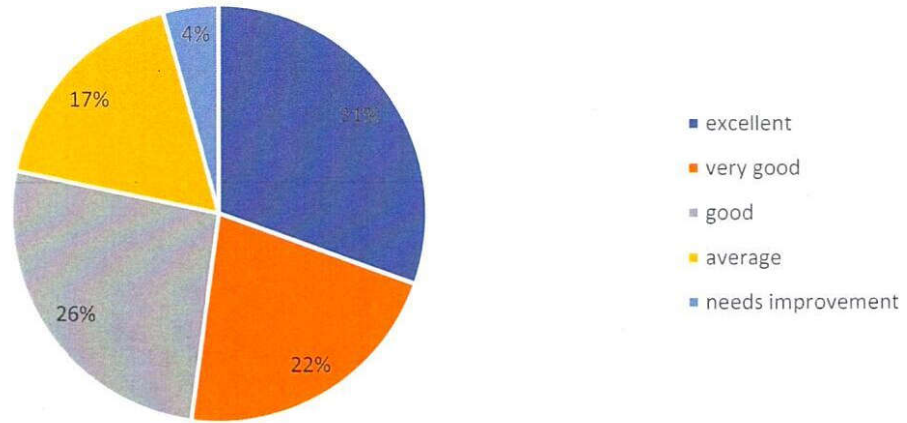
NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

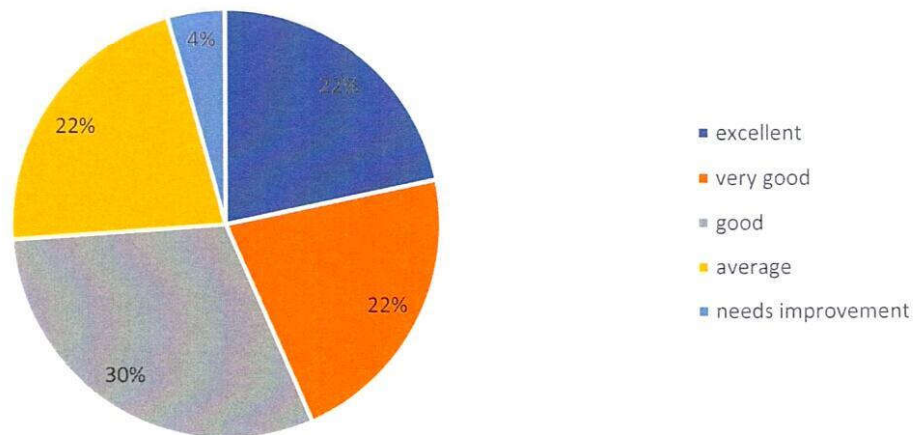


ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Goals of the session were clearly outlined



Presentation was organized/coherent



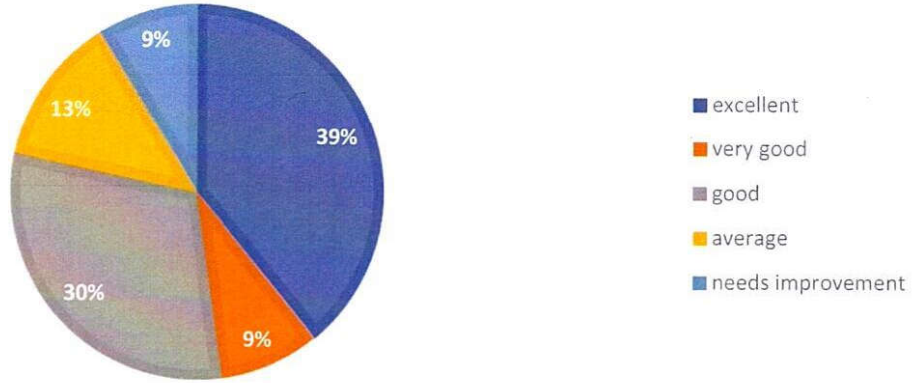
NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

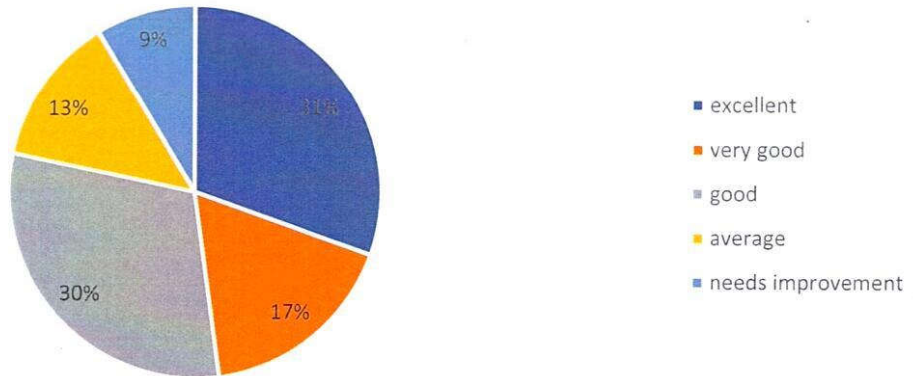


ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Resource person was well prepared



Resource person could engage the participants

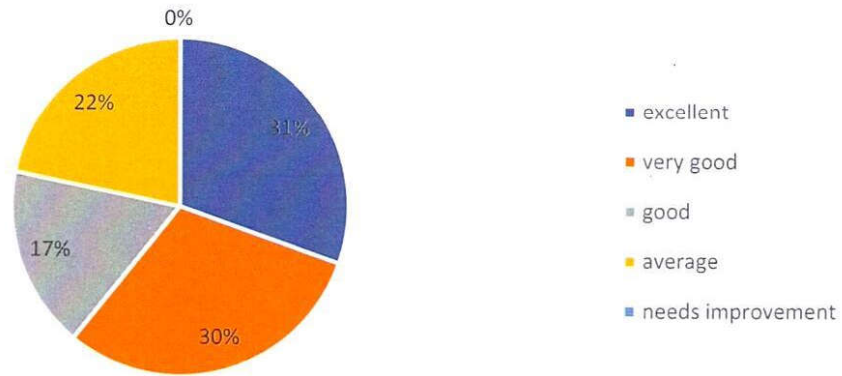


NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

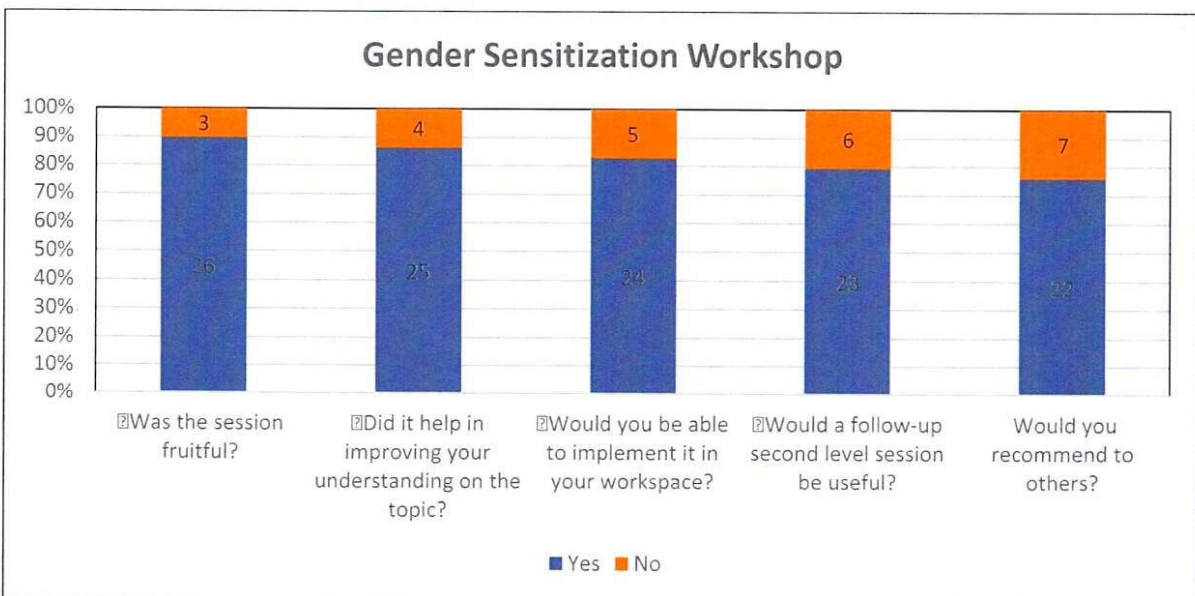

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



In the interactive session, the resource person could respond to the questions and comments satisfactorily.



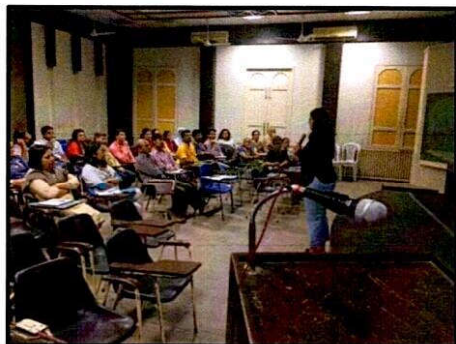
Section 2	Yes	No
Was the session fruitful?	26	3
Did it help in improving your understanding on the topic?	25	4
Would you be able to implement it in your workspace?	24	5
Would a follow-up second level session be useful?	23	6
Would you recommend to others?	22	7





ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Stills from the session:




The Final Event was held on Saturday, 22nd February 2020 at 2pm in the MMR. It was attended by Fr. Keith D'Souza (Rector), Dr Rajendra Shinde (Principal), Dr Annapurna S (Vice-Principal, Arts) and Dr Prasita Mukherjee (Faculty in-charge) along with Ms. Marrisa Borges and Ms Karishma D'mello from Red Dot Foundation. The event marked the concluding chapter of the three-month liaison with Red Dot Foundation and the Safe Campus Drive organised by the Youth Leaders in St. Xavier's College. Fr. Keith addressed the audience talking about the need for programs such as Safe Campus and its usefulness to students and society at large. The Youth Leaders, Durga Yesade, Abraham Austine, Rutul Garge and Naitik Jain shared their experiences with the audience on areas such as

- i. Implementation of the program,
- ii. Learning experiences while implementing it in college
- iii. Difficulties faced during the course of Program, and
- iv. The impact the program had on them on a personal and on a collective level.

An analysis of the 'Safety while traveling' audit was presented, followed by an engaging street-play written and performed by the students of the college called "Goonj Buland Awaazo Ki" on the issue of Sexual Violence.



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

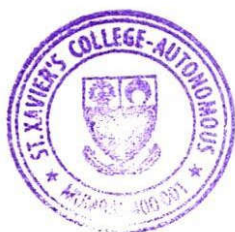


ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

Ms. Marissa Borges presented her experiences based on the interaction with St. Xavier's college which she said has been good despite few challenges of not being able to stay within deadlines due to the continuous pattern of evaluations and examinations in college. The street play was very powerful and certainly left an indelible impression on the audience. The members attending the programme appreciated it and mentioned that it was the best performance that they had seen from their college visits. Certificates were presented to the Youth Leaders and was concluded with the vote of thanks.

The play by student and staff demand was enacted again staged in college on Thursday, 27th February at 10:30am and 11:20am (Arts and Science breaks, respectively) and their peers once again came in large numbers to watch the power-driven meaningful performance to address a vital problem plaguing our society.

Stills from the session:



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE, MUMBAI

150

Est. 1869 | YEARS

ST. XAVIER'S COLLEGE
(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

31st January 2020

Ms. Elsa Marie D'Silva,
Founder & CEO,
Red Dot Foundation,
Mumbai.

Dear Ms. D'Silva

I thank you for accepting our invitation to conduct a workshop for our faculty on behalf of Red Dot Foundation on 'Gender Sensitization' on 31st January 2020, from 2.00 p.m. to 4.00 p.m.

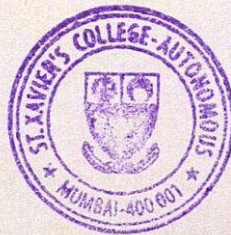
We look forward to a continued association with you.

Warm regards,

Yours sincerely,

Dr. Rajendra Shinde
Principal

Received
E. Silva
31/1/20



St. Xavier's College - Autonomous, Mumbai - 400 001

Workshop on Gender Sensitization in collaboration with Red Dot Foundation on
31.01.2020

Sr. No.	Name	Department	Signature
1	Dr. Seema Das	Life Science & Biochemistry	(Signed behind)
2	Ms. Linda Dhakul	Psychology	<i>[Signature]</i> 31/1/2020
3	Dr. Sangeeta Shetty	Life Science & Biochemistry	<i>[Signature]</i> 31/1/20
4	Dr. S. Annapurna	Statistics	<i>[Signature]</i>
5	Dr. Karuna Gokarn	Microbiology	
6	Dr. Prasita Mukherjee	English	<i>[Signature]</i> 31/1/2020
7	Jason John S	Ancient Indian Culture	<i>[Signature]</i>
8	Bro Vivian Almeida	Economics	<i>[Signature]</i>
9	Arun Singh	History	<i>[Signature]</i>
10	Fr. Savio Abreu S. J	Sociology & Anthropology	<i>[Signature]</i>
11	Sahana Sen	Sociology & Anthropology	<i>[Signature]</i>
12	Saif Khan	Botany	<i>[Signature]</i>
13	Dr Rajdeo Singh	Botany	<i>[Signature]</i>
14	Kris Silveira	Biotechnology	—
15	Himanshu Gupta	Chemistry	—
16	Dr. Nikhila Bhat	Chemistry	<i>[Signature]</i>
17	Neha Kapadia	Chemistry	<i>[Signature]</i> 31/01/2020
18	Kyle Meyers	Chemistry	<i>[Signature]</i>
19	Dr. Manik Rathod	Chemistry	<i>[Signature]</i>
20	Dr Shweta Gurav	Geology	<i>[Signature]</i> 31.01.2020
21	Dr. Dwight Figuerdo	Life Science & Biochemistry	—
22	Rahul Katkam	Mathematics	<i>[Signature]</i>
23	Dr. Pradnya Gogte	Microbiology	<i>[Signature]</i> 31/1/2020
24	Katherine Rawlins	Physics	<i>[Signature]</i> 31/1/2020
25	Mayur More	Statistics	<i>[Signature]</i> 31/1/2020
26	Ankita Gujar	Sociology & Anthropology	<i>[Signature]</i> 31/01/2020
27	Sachin Hegde	English	<i>[Signature]</i> 31/01/2020
28	Manish Pandey	Physics	<i>[Signature]</i> 31/1/20



PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

St. Xavier's College - Autonomous, Mumbai - 400 001

Workshop on Gender Sensitization in collaboration with Red Dot Foundation on
31.01.2020

Sr. No.	Name	Department	Signature
29	Shabnam Shabbir	Physics	<i>Shabbir</i> 31/01/2020
30	Ankita Singh	Physics	<i>Ankita</i> 31/01/2020
31	Sana Malim	Economics	<i>Sana Malim</i> 31.1.2020
32	Rubina Khan	Mathematics	<i>Rubina</i> 31.1.2020
33	Kamlesh Kadam	Physics	<i>Kadam</i> 31.01.2020
34	Rajesh Pandey	Chemistry	<i>Pandey</i>
35	DR. BHAGWATI UPADHYAY	HINDI	<i>Bhagwati</i>
36	Dr. Pushpa Sinhar	Zoology	<i>Pushpa</i> 31.1.2020
37	Sangeetha Chavan	Microbiology	<i>Chavan</i> 31/1/2020
38	Dr. Seema Das	Life Sc. & Biochem.	<i>Seema</i> 31/01/2020
39	Nandini Naik	Public Policy	<i>Naik</i>
40	RIJO RAJAN	History	<i>Rijo</i>
41	RUCHI BRAHMACHARI	PSYCHOLOGY (P.G.)	<i>Brahmachari</i> 31/1/2020
42	Dr. Pampi Chakraborty	Microbiology	<i>Pampi</i> 31/01/2020
43	Dr. Pradnya Gogte	Microbiology	<i>Gogte</i> 31/01/2020
44			
45			



Shinde

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

ST. XAVIER'S COLLEGE, MUMBAI



150

Est. 1869 YEARS

(An autonomous college affiliated to the Mumbai University)

Syllabus for the M.Sc in Big Data Analytics

(Credit Based Semester and Grading system
effect from the academic year 2019-20)



PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

Pre-course Work

1. Microsoft Excel for Data Analysis

- a. Excel Tables, Filters, Sorting
- b. Pivot Tables and Charts
- c. Formats, Formulas, Dates
- d. Functions – Mathematical, Statistical, Text, Date

Reference:

On-line courses/Tutorials:

i. Microsoft Virtual Academy:

- a. Analyzing and Visualizing Data with Excel

<https://mva.microsoft.com/en-US/training-courses/analyzing-and-visualizing-data-with-excel-11157>

- b. Data Analysis with Excel

<https://mva.microsoft.com/en-US/training-courses/data-analysis-with-excel-16654>

ii. Edx.Org:

- e. Introduction to Data Analysis using Excel

<https://www.edx.org/course/introduction-to-data-analysis-using-excel-0>

iii. Coursera.org:

- f. Introduction to Data Analysis Using Excel <https://www.coursera.org/learn/excel-data-analysis>

2. Basic Unix Programming

- a. Basic Unix Commands
- b. Handling files and folders
- c. Concatenation, find and replace, modify file & texts
- d. Basic summary commands

Reference:

On-line courses/Tutorials:

Data Camp:

- e. Introduction to Shell for Data Science

<https://www.datacamp.com/courses/introduction-to-shell-for-data-science>

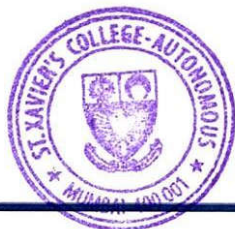
Linux.Org:

- f. Linux Beginner Tutorials <https://www.linux.org/forums/linux-beginner-tutorials.123/>

- g. Github - Organizing with Unix: <https://rafaLabgithub.io/dsbook/organizing-with-unix.html>

Book:

- h. Data Science at the Command Line, JeroenJanssens, <https://www.datascienceatthecommandline.com/>



A handwritten signature in blue ink, appearing to read "Shinde".

SEMESTER – I

All courses compulsory

1. Statistical Methods
2. Probability & Stochastic Process
3. Linear Algebra & Linear Programming
4. Computing for Data Sciences using R, Python and Java
5. Database Management – Relational and Non-Relational
6. Python Programming (Lab work is Must) - Introduction to Python interpreter, Control statements, functions, I/O, File handling, Packages/Libraries, Exception Handling, OO Programming.

SEMESTER – II

Compulsory courses:

1. Foundations of Data Science
2. Advanced Statistical Methods
3. Machine Learning I
4. Enabling Technologies for Data Science I (Lab work is must) : NoSQL database, Oozie
5. Value Thinking

Elective courses: (choose 1)

1. Operations Research
2. Cloud Computing: Introduction to Cloud computing, Cloud service methods, IaaS, PaaS, SaaS, fundamentals of cloud Architecture (load distribution, resource pooling, scalability, load balancing, redundancy, etc), Introduce DevOps, CICD. Hands-on practice either on AWS/Azure/Google Cloud Platform.
4. Natural Language Processing
5. Unix Programming
6. Operating Systems
7. Multivariate Statistics



A handwritten signature in blue ink, appearing to read 'Shinde'.

SEMESTER – III

Compulsory courses:

1. Enabling Technologies for Data Science 2 (Lab is Must):Spark, Scala, Mahout
2. Machine Learning 2 including Deep Learning
- 3A. Data Visualization with Tableau: Learn about design principles, human perception and effective story telling with data, dashboards, modern visualization tools and techniques (cover Tableau). Hands-on practice on Tableau is must.
- 3B. (30hrs.). Modelling in Operations Management – Banking Analytics, Healthcare analytics, Retail analytics

Elective courses: (choose 2)

1. Introduction to Econometrics & Finance
2. Time series Analysis & Forecasting
3. Bio informatics
4. Big Data Technologies and Architecture
5. IPR
6. Cyber Security
7. Text mining
8. Advanced Analytics

SEMESTER – IV

1. Internship based project.



A. K. Kulkarni

Semester I

Course code	Course name	credits	Lectures
ITS0701	Statistical Method	3	45
ITS0702	Probability & Stochastic Process	3	45
ITS0703	Linear Algebra & Linear Programming	3	45
ITS0704	Computing for Data Sciences using R, Python and Java	3	45
ITS0705	Database Management – Relational and Non-Relational	3	45
ITS07PR1	Linear Algebra & Linear Programming & Statistics	3	60
ITS07PR2	Data base Management Systems and computing for data science	3	60
ITS07PR3	Python Programming	3	60
Total		24	405

Total 24 credits

Semester II

Course code	Course name	credits	Lectures
ITS0801	Foundations of Data Science	3	45
ITS0802	Advanced Statistical Methods	3	45
ITS0803	Machine Learning-I	3	45
ITS0804	Value Thinking	2	30
ITS0805	Enabling Technologies for Data Science	3	45
ITS0806	Cloud computing /Operation Research	4	60
ITS08PR1	Foundation of Data Science & Advanced Statistical Methods	3	60
ITS08PR2	Machine Learning I &Enabling Technologies for Data Science	3	60
Total		24	390



Semester III

Course code	Course name	credits	Lectures
ITS0901	Enabling Technologies for Data Science 2	4	60
ITS0902	Machine Learning 2 including Deep Learning	4	60
ITS0903	Data Visualization with Tableau & Modelling in Operations Management	3	45
ITS0904	IPR / Cyber Security. Text mining Advanced Analytics	4	60
ITS0905	Time series Analysis & Forecasting /Bio informatics / Big Data Technologies and Architecture	4	60
ITS09PR1	Machine Learning 2 including Deep Learning & elective 1	3	60
ITS09PR2	Enabling Technologies for Data Science 2 & elective 2	3	60
ITS09PR3	Data Visualization with Tableau & Modelling in Operations Management	3	60
Total		28	465

Semester IV

ITS10PJ

Internship based Project

20 credits



Shink

1.BASIC STATISTICAL METHODS: ITS0701

45 lect

- a) **Data Collection & Visualization :** (17)
Concepts of measurement, scales of measurement, design of data collection formats with illustration, data quality and issues with data collection systems with examples from business, cleaning and treatment of missing data, principles of data visualization, and different methods of presenting data in business analytics.
- b) **Basic Statistics:** (17)
Frequency table, histogram, measures of location, measures of spread, skewness, Kurtosis, percentiles, box plot, correlation and simple linear regression, partial correlation, probability distribution as a statistics model, fitting probability distributions, empirical distributions, checking goodness of fit through plots and tests.
- c) **Contingency Tables:** (11)
Two way contingency tables, measures of association, testing for dependence.

REFERENCE BOOKS:

1. Statistics: David Freedman, Robert Pisani & Roger Purves, WW.Norton & Co. 4th Edition 2007.
2. The visual display of Quantitative Information: Edward Tufte, Graphics Press, 2001.
3. Best Practices in Data Cleaning: Jason W. Osborne, Sage Publications 2012.

Evaluation : Theory : CIA (40%) and End semester (60%)



2. PROBABILITY & STOCHASTIC PROCESS: ITS0702 [45 Lect]

- a). **Basic Probability :** (18)
Concepts of experiments, Outcomes, Sample space, Events, Combinatorial probability, Birthday paradox, Principle of inclusion & exclusion, Conditional probability, Independence, Bayes Theorem.
- b) **Probability Distribution:** (16)
Random Variables: discrete and continuous probability models, some probability distributions: Binomial, Poisson, Geometric, Hypergeometric, Normal, exponential, Chi-square, expectation, variance and other properties of the distribution.
- c) **Stochastic Process:** (5)
Markov Chains, Classification of states, Stationery distribution, limit theorems, Poisson process, illustrations and applications.
- d) **Introduction to Time Series:** (6)
Components of time series, Smoothing auto correlation, stationarity, concepts of AR, MA, ARMA & ARIMA models with illustrations.

REFERENCE BOOKS:

1. A First Course in Probability: Sheldon M. Ross, 2014.
2. Introduction to Stochastic Process : Paul G. Hoel, Sydney C. Port & Charles J. Stone, Waveland Press, 1987.
3. Time Series Analysis and Its Applications: Robert H. Shumway and David S. Stoffer, Springer 2010.

Evaluation:Theory : CIA (40%) and End semester (60%)



Shinde.

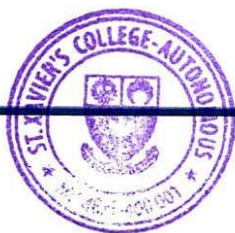
3.LINEAR ALGEBRA & LINEAR PROGRAMMING ITS0703 [45 Lect]

- a) **Linear Algebra:** (30)
Linear equations and matrices, matrix operations, solving system of linear equations, Gauss-Jordan method, Concept & Computation of determinant and inverse of matrix, Eigen values and eigen vectors, Illustrations of the methods, Positive semi definite and position definite matrices, illustrations
- b) **Linear Programming** (15)
Definition of the problem, convex sets, corner points, feasibility, basic feasible solutions, Simplex method

REFERENCEBOOKS:

1. Linear Algebra and Its Application: Gilbert Strang, 4th Edition, Academic Press.
Hands-On Matrix Algebra Using R (Active and Motivated Learning with Applications), Hrishikesh D Vinod, World Scientific
2. Linear Programming: G. Hadley, Addison-Wesley.

Evaluation: Theory : CIA (40%) and End semester (60%)



A handwritten signature in blue ink, which appears to be 'Hrishikesh D Vinod', is written over a blue horizontal line.

4.COMPUTING FOR DATA SCIENCES ITS0704

[45 Lect]

- a) **Computer Packages – R and Python:** (10)
Usage of R and Python – data handling, data analysis, statistical modeling with illustration in python and R (10 hrs. R + 10 hrs. Python).
- b) **Data Structure & Concepts of Computation** using Java (20)
Algorithms, Convergence, Complexity with illustrations, some sorting & searching algorithms, some numerical methods e.g. Newton-Raphson, Steepest ascent using Java
- c) **Computing Methodologies:** (15)
Monte-Carlo simulations of random numbers and various statistical methods, memory handling strategies for big data.

REFERENCE BOOKS:

Introduction to Data Science (Data Analysis and Prediction Algorithms with R), Rafael A. Irizarry, <https://rafaLabgithub.io/dsbook/>

Hands-On Programming with R - Write Your Own Functions and Simulations, Golemund Garrett, O'Reilly

Data Structures and Algorithm using Java, 6th Ed. Michael T. Goodrich and Roberto Tamassia, John Wiley & Sons, Inc

Python Data Science Handbook - Essential Tools for Working with Data, Jake VanderPlas, O'Reilly

Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython, WES MCKINNEY, O'Reilly

Evaluation:Theory : CIA (40%) and End semester (60%)



5. DATABASE MANAGEMENT : ITS0705

[45Lect]

- a) **Basic Concepts:** (10)
Different data models, ER and EER diagram, schema, table, Big Data Concepts and Hadoop Ecosystem
- b) **Relational and Non-Relational Databases:** (25)
Structure, various operations, normalization, SQL, No-SQL, Graph Database, Parallel and distributed data base, Map-Reduce.
Lab using SQL/Oracle/MySql for Relational databases; Hadoop(any), MangoDB, GraphDB for Big Data
- c) **Implementation:** (10)
ORACLE SQL/MS SQL/MySQL, Hadoop Ecosystem, Concept of database security.

SUGGESTED BOOKS

1. Database system concepts : Abraham Silberschartz, Henry F. Korth and S. Surarshan, McGraw Hill, 2011.
2. Hadoop 2 Quick-Start Guide: Learn the Essentials of Big Data Computing in the Apache Hadoop 2 Ecosystem, Douglas Eadline, Addison-Wesley, Pearson Education India; First edition (1 March 2016)
3. Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data, EMC Education Services, 2015

Evaluation: Theory : CIA (40%) and End semester (60%)



6.Linear Algebra & Linear Programming & Statistics	ITS07PR1	[60 Lect]
1. Data Collection & Visualization :	(8)	
2. Basic Statistics:	(8)	
3.Contingency Tables:	(4)	
4. Basic Probability :	(4)	
5.Probability Distribution:	(4)	
6.Stochastic Process:	(6)	
7.Introduction to Time Series:	(6)	
8.Linear Algebra	(12)	
9.Linear programming	(8)	



Shinde

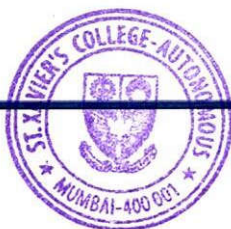
7. Data base Management Systems and computing for data science ITS07PR2

[60 Lect]

1. Relational Databases using MS SQL (15)
2. Non relational databases (5)
3. Implementations (10)
4. Computer packages :R and Python (10)
5. Data Structure & Concepts of Computation using Java (10)
6. Computing Methodologies (10)

8. Python Programming (Lab work is Must)ITS07PR3 [60 Lect]

- 1.Introduction to Python interpreter (8)
- 2.Control statements (8)
- 3.functions &I/O (8)
- 4.File handling (8)
5. Packages/Libraries (8)
- 6.Exception Handling (8)
- 7.OO Programming. (8)



Syllabus for course - M.sc in big data analytics, St Xavier's college, Mumbai

SEMESTER – II

Course code	Course name	credits	Lectures
ITS0801	Foundations of Data Science	3	45
ITS0802	Advanced Statistical Methods	3	45
ITS0803	Machine Learning-I	3	45
ITS0804	Value Thinking	2	30
ITS0805	Enabling Technologies for Data Science	3	45
ITS0806	Cloud computing /Operation Research	4	60
ITS08PR1	Foundation of Data Science & Advanced Statistical Methods	3	60
ITS08PR2	Machine Learning I &Enabling Technologies for Data Science	3	60
Total		24	390



Handwritten signature

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

1. FOUNDATIONS OF DATA SCIENCE (PROGRAMMING FOR BIG DATA)

ITS0801

45lects:

- a) **Graph Theory :** (7)
Basic Concepts, Algorithms for connectedness, Shortest path, Minimum Sampling Tree,
- b) **High Dimensional Space:** (11)
Properties, Law of large numbers, Sphere and cube in high dimension, Generating points on the surface of a sphere, Gaussians in High dimension, Random projection, Applications.
- c) **Random Graphs :** (11)
Large graphs, $G(n,p)$ model, Giant Component, Connectivity, Cycles, Non-Uniform models, Applications.
- d) **Singular Value Decomposition (SVD):** (2)
Best rank k approximation, Power method for computing the SVD, Applications.
- e) **Random Walks:** (2)
Reflection Principle, Long leads, Changes of Sign, Illustrations.
- f) **Algorithm for Massive Data Problems:** (12)
Frequency Moments of data streams, matrix algorithms.

SUGGESTED BOOK:

- 1. Foundations of Data Science: John Hopcroft & Ravindran Kannan.

Evaluation : Theory : CIA (40%) and End semester (60%)



A handwritten signature in blue ink, appearing to read 'Shinde'.

2. ADVANCED STATISTICAL METHODS :

ITS0802 [45 lectures]

- a) **Estimation:(13)**
Unbiasedness, Consistency, UMVUE, Maximum likelihood estimates. (15 hrs.)
- b) **Test of Hypotheses:(13)**
Two types of errors, test statistic, parametric tests for equality of means & variances.
- c) **Linear Model:(9)**
Gauss Markov Model, least square estimators, Analysis of variance.
- d) **Regression:(10)**
Multiple linear regression, forward, backward & stepwise regression, Logistic Regression.

SUGGESTED BOOKS:

1. Statistical Inference: P. J. Bickel and K. A. Docksum, 2nd Edition, Prentice Hall.
2. Introduction to Linear Regression Analysis: Douglas C. Montgomery

Evaluation: Theory : CIA (40%) and End semester (60%)



Handwritten signature in blue ink.

3. **MACHINE LEARNING 1** **ITS0803** **[45 lectures]**

- a) **Linear Regression (8)**
Linear Regression with Multiple variables, applications.
- b) **Logistic Regression:(6)**
Model, Classification, Problem of over-fitting, Applications.
- c) **Neural Networks:(7)**
Representation Learning, Different Models like single and multi-layer perceptron, back propagation, Application.
- d) **Machine Learning System Design:(3)**
Evaluating a learning algorithms, handling skewed data, using large data sets.
- e) **Support Vector Machines:(4)**
Model, Large Margin Classification, Kernels, SVMs in practice.
- f) Unsupervised Learning. (5)
- g) Dimensionality Reduction. (8)
- h) Anomaly Detection. (4)

SUGGESTED BOOKS:

- 1. Machine Learning: Tom Mitchell

Evaluation:Theory : CIA (40%) and End semester (60%)



4. Enabling Technologies for Data Science I

ITS0803 [45 lectures]

- a) **Introduction: (5)**
Knowledge discovery from databases, scalability issues.
- b) **Data Warehousing: (5)**
General principles, modeling, design, implementation and optimization, Cloud Computing, OLAP.
- c) **Data Preparation:(5)**
Pre-processing, sub-sampling, feature selection.
- d) **Classification and Prediction: (16)**
Bayes learning, decision trees, CART, neural learning, support vector machines, associations, dependence analysis, rule generation.
- e) **Cluster Analysis and Deviation Detection: (8)**
Partitioning algorithms, Density bases algorithm, Grid based algorithm, Graph theoretic clustering.
- f) **Temporal and spatial data mining. (6)**

SUGGESTED BOOKS

1. Data Mining Techniques: A. K. Pujari, Sangam Books Ltd., 2001
2. Mastering Data Mining: M. Berry and G. Linoff, John Wiley & Sons., 2000
3. Data Mining Cookbook: Modeling Data for Marketing, Risk, and Customer Relationship Management, Olivia Parr Rud, Wiley

Evaluation: Theory : CIA (40%) and End semester (60%)



A handwritten signature in blue ink, appearing to read "Shinde", is written over the printed name of the Principal.

5.VALUE THINKING : ITS0804

[45 lectures]

(It does not need full class contact hours. Students have to learn themselves through Movies and Books).

This course involves watching few movies (list provided below) and reading few books (list provided below) that deals mostly with argumentative logic, evidence, drawing inference from evidences. After watching the movies and reading the books, there will be general discussion amongst the students. Couple of case studies that involve mostly logical thinking will also be presented. Each student will prepare a term paper. Evaluation will be on the basis of this term paper and participation in group discussion.

Movies:

Twelve Angry Men
Roshoman by Kurosawa
Trial of Nuremberg
Mahabharata by Peter Brook

Books:

The Hound of the Baskervilles by Arthur Conan Doyle
Five Little Pigs by Agatha Christie
The Purloined Letter by Edger Allan Poe
The Case of the Substitute Face

Evaluation: Case Studies



A handwritten signature in blue ink, appearing to read "Shinde".

Electives (Choose 1)

1. OPERATIONS RESEARCH: (60 hrs.)

- a) Review of Linear Programming. (5 hrs. – Theory 5 hrs.)
- b) Non-Linear Programming. (10 hrs. – Theory 6 hrs. + Lab 4 hrs.)
- c) Assignment Models. (5 hrs. – Theory 1 hrs. + Lab 4 hrs.)
- d) Transportation Models. (15hrs. – Theory 11 hrs. + Lab 4 hrs.)
- e) Queuing Models: Characteristics of Queuing Process, Poisson Process, Birth-Death Process, Single-Server Queues, Multi-ServerQueues, Queues with Truncation, Finite-Source Queues, Numerical Techniques & Simulation.
(25 hrs. – Theory 19 hrs. + Lab 6 hrs.)

SUGGESTED BOOKS:

- 1. Operations Research:PREM Kumar Gupta & D. S. Hira
- 2. Fundamentals of Queuing Theory: Donald Gross, John F. Shortle, James M. Thompson & Carl M. Harris, Fourth Edition, Wiley

Evaluation : Theory : 70% + Practical/Lab : 30%

- 2. Cloud Computing: Introduction to Cloud computing, Cloud service methods, IaaS, PaaS, SaaS, fundamentals of cloud Architecture (load distribution, resource pooling, scalability, load balancing, redundancy, etc), Introduce DevOps, CICD. Hands-on practice either on AWS/Azure/Google Cloud Platform (Course content to be developed)
- 3. Natural Language Processing (Course content to be developed)
- 4. Unix Programming (Course content to be developed)
- 5. Operating Systems (Course content to be developed)



6. MULTIVARIATE STATISTICS : (60 hrs.)

- a) Representation of multivariate data, bivariate and multivariate distributions, multinomial distribution, multivariate normal distribution, sample mean & sample dispersion matrix, concepts of location & depth in multivariate data.
(20 hrs. – Theory 12 hrs. + Lab 8 hrs.)
- b) Principal Component Analysis (10 hrs. – Theory 6 hrs. + Lab 4 hrs.)
- c) Classification (10 hrs. – Theory 6 hrs. + Lab 4 hrs.)
- d) Factor Analysis (10 hrs. – Theory 6 hrs. + Lab 4 hrs.)
- e) Clustering (10 hrs. – Theory 6 hrs. + Lab 4 hrs.)

SUGGESTED BOOKS:

- 1. Applied Multivariate Statistical Analysis: Richard A. Johnson and Dean W. Wichern, Prentice Hall, 2002

Evaluation: Theory: 60% + Practical/Lab : 40%



Foundation of Data Science & Advanced Statistical Methods ITS08PR1

- a) **Graph Theory : (6)**
Basic Concepts, Algorithms for connectedness, Shortest path, Minimum Sampling Tree,
Lab: Graph Databases, Java/Python Programming
- b) **High Dimensional Space: (6 .)**
Properties, Law of large numbers, Sphere and cube in high dimension, Generating points
on the surface of a sphere, Gaussians in High dimension, Random projection, Applications.
Lab: Graph Databases, Java/Python Programming
- c) **Random Graphs : (6 .)**
Large graphs, $G(n,p)$ model, Giant Component, Connectivity, Cycles, Non-Uniform
models, Applications.
Lab: Graph Databases, Java/Python Programming
- d) **Singular Value Decomposition (SVD): (2)**
Best rank k approximation, Power method for computing the SVD, Applications.
Lab: R and Python Programming (Optional: Matlab/Octave)
- e) **Random Walks:(6)**
Reflection Principle, Long leads, Changes of Sign, Illustrations.
Lab: R and Python Programming
- f) **Algorithm for Massive Data Problems: (10)**
Frequency Moments of data streams, matrix algorithms.
Lab: R and Python Programming
- g) **Estimation: (4.)**
Unbiasedness, Consistency, UMVUE, Maximum likelihood estimates. (15 hrs.)
- h) **Test of Hypotheses: (4)**
Two types of errors, test statistic, parametric tests for equality of means & variances.
- i) **Linear Model: (6 .)**
Gauss Markov Model, least square estimators, Analysis of variance.
- j) **Regression: (6)**
Multiple linear regression, forward, backward & stepwise regression, Logistic
Regression.



Enabling Technologies for Data Science & Machine learning-I ITS08PR2

- a) Data Warehousing: (6 .)
General principles, modeling, design, implementation and optimization, Cloud Computing, OLAP.
- b) **Data Preparation:** (4)
Pre-processing, sub-sampling, feature selection.
- c) **Classification and Prediction:** (8)
Bayes learning, decision trees, CART, neural learning, support vector machines, associations, dependence analysis, rule generation.
- d) **Cluster Analysis and Deviation Detection:** (8)
Partitioning algorithms, Density bases algorithm, Grid based algorithm, Graph theoretic clustering.
- e) Temporal and spatial data mining. (4)
- f) **Linear Regression** (4)
Linear Regression with Multiple variables, applications.
- g) **Logistic Regression:**(6)
Model, Classification, Problem of over-fitting, Applications.
- h) **Neural Networks:** (6)
Representation Learning, Different Models like single and multi-layer perceptron, back propagation, Application.
- i) **Machine Learning System Design:** (6)
Evaluating a learning algorithms, handling skewed data, using large data sets. (5 hrs.)
- j) **Support Vector Machines:** (2)
Model, Large Margin Classification, Kernels, SVMs in practice. (5 hrs.)
- k) Unsupervised Learning. (2)
- l) Dimensionality Reduction. (2)
- m) Anomaly Detection. (2)

SEMESTER – III

Enabling Technologies for Data Science 2 ITS 0901

(60 Hours) :

Spark, Scala, Mahout.



A handwritten signature in blue ink, appearing to read 'Shinde'.

2. Machine Learning 2 including Deep Learning ITS0903

(60 Hours)

Decision Tree Classification: (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
Entropy, Gini index, Algorithms, Regression Trees.

Probabilistic Classifiers: (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
Generative and Conditional classifiers.

Hyper plane classifiers: (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
Loss functions, stochastic gradient algorithms, Perceptron algorithms.

Application of to Pattern Recognition Problems. (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)

Clustering: (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
Performance criteria, K-means clustering, EM algorithm

- a) Collaborative filtering (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
- b) Combining models (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
- c) Probabilistic graphical models (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
- d) Large Scale Machine Learning: 6 hrs. – Theory 3 hrs. + Lab 3 hrs.)
Gradient descent with large data sets
- e) Genetic Algorithm. (6 hrs. – Theory 3 hrs. + Lab 3 hrs.)

SUGGESTED BOOKS

1. Machine Learning: Tom Mitchell

Evaluation: Theory: 50% + Practical/Lab : 50%

3. Data Visualization AND MODELLING IN OPERATIONS MANAGEMENT ITS0903

3A. Data Visualization with Tableau: (30 Hours)

Learn about design principles, human perception and effective story telling with data, dashboards, modern visualization tools and techniques (cover Tableau). Hands-on practice on Tableau is must.



A handwritten signature in blue ink, appearing to read "Shinde".

3B.MODELLING IN OPERATIONS MANAGEMENT: (30 hrs.)

- a) Banking analytics (10 hrs.– Lab 10 hrs.)
- b) Healthcare analytics (10 hrs. – Lab 10 hrs.)
- c) Retail analytics (10 hrs. – Lab 10 hrs.)

SUGGESTED BOOKS: NONE

Evaluation: Practical / Lab / Report : 100%

Electives (Choose 2)

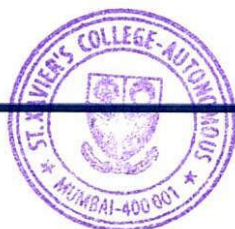
1. INTRODUCTION TO ECONOMETRICS & FINANCE (60 Hrs.):

- a) Analysis of Panel Data. (19 hrs. – Theory 16 hrs. + Lab 3 hrs.)
- b) Generalized Method of Moments (GMM). (18 hrs. – Theory 16 hrs. + Lab 3 hrs.)
- c) Simultaneous Equations System: (7 hrs. – Theory 4 hrs. + Lab 3 hrs.)
Least Squares, Bias Problem, Estimation Method.
- d) Cointegration: (8 hrs. – Theory 2 hrs. + Lab 6 hrs.)
Concept, two variable model, Engle-Granger Method, Vector autoregressions (VAR),
Vector error correlation model (VECM).
- e) ARCH/GARCH/SV models, some important generalizations like EGARCH & GJR
models, ARCH –M models. (8 hrs. – Theory 2 hrs. + Lab 6 hrs.)

SUGGESTED BOOKS:

- 1. The Econometrics of Financial Markets: J. Campbell, A.Lo and C. Mackinlay
- 2. Econometric Analysis: William H. Greene

Evaluation : Theory : 70% + Practical/Lab : 30%



Shinde

2. TIME SERIES & FORECASTING: (60 hrs.)

- a) Exploratory Analysis of Time Series. (10 hrs. – Theory 4 hrs. + Lab 6 hrs.)
- b) Stationary and Non-Stationary Time Series. (5 hrs. – Theory 5 hrs.)
- c) AR, MA, ARMA, ARIMA models, their properties, estimation of parameters. (20 hrs. – Theory 16 hrs. + Lab 4 hrs.)
- d) Tests of Non-Stationarity – Unit Root tests. (5 hrs. – Theory 3 hrs. + Lab 2 hrs.)
- e) Forecasting, Smoothing, Minimum MSE Forecast, Forecast Error. (10 hrs. – Theory 8 hrs. + Lab 2 hrs.)
- f) Modelling Seasonal Time Series. (5 hrs. – Theory 3 hrs. + Lab 2 hrs.)
- g) Missing Data Problem in Time Series. (5 hrs. – Theory 3 hrs. + Lab 2 hrs.)

SUGGESTED BOOKS

- 1. Introduction to Statistical Time Series: W. A. Fuller
- 2. Introduction to Time Series Analysis: P. J. Brockwell and R. A. Davis

Evaluation: Theory: 70% + Practical/Lab: 30%



Shinde

3. BIOINFORMATICS (60 hrs.):

- a) Sequence Alignments. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- b) Advance Alignment Methods. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- c) Gibbs Sampling. (8 hrs. – Theory 2 hrs. + Lab 6 hrs.)
- d) Population Genomics. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- e) Genetic Mapping. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- f) Disease Mapping. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- g) Gene Recognition. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- h) Transcriptome & Evolution. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- i) Protein Structure. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- j) Protein Motifs. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- k) Hidden Markov Model. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- l) Lattice Model. (4 hrs. – Theory 2 hrs. + Lab 2 hrs.)
- m) Algorithms. (8 hrs. – Theory 6 hrs. + Lab 2 hrs.)

SUGGESTED BOOKS

Introduction to Computational Molecular Biology: C. Setubal & J. Meidanis, PWS Publishing, Boston, 1997

Evaluation: Theory: 50% + Practical/Lab: 50%



Shinde

Syllabus for course - M.sc in big data analytics, St Xavier's college, Mumbai

4. **Big Data Technologies and Architecture (Course content to be developed)**
5. **IPR (Course content to be developed)**
6. **Cyber Security (Course content to be developed)**



Abhinav

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

SEMESTER – IV:

Internship based project

A real life project has to be undertaken at an industry for 20 weeks. Each student will have two supervisors: one from academic institution and one from the industry. The project shall involve handling data extensively and use of methodologies learnt during the course work to derive meaningful inferences. A final project report has to be submitted and an “open” presentation has to be made.

Project evaluation may be as follows.

Report from two supervisors: 200 marks (100 each)
Project report: 200 marks
Presentation: 100 marks.
Total: 500 marks





ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

Train the Trainer Program Report on sessions conducted by TCS

The five staff members who visited ISI, Kolkata as part of the TCS, Train the Trainer Program (TTP), from 10th to 12th July 2019, were Prof. Mayur More, Prof Simi Cyric, Prof. Piyali Unnikrishnan, Prof. Lydia Fernandes and Prof. Rachana Pandey. Apart from this, timely interactions between TCS, ISI faculty with MSc. BDA staff and students have taken place on a regular basis both via online (VCON sessions) and offline modes. A Big data case study was conducted via VCON by Mr. Sandeep Dey, from TCS, on 27th, Sept, 2019. Dr. Balanarayan G, Head, Academia Interface Program Tata Consultancy Services, conducted a video conference session on 1st Oct, 2019. A VCON session on Application of Java was conducted by Mr. Prathap Kolla, TCS, on 26th Nov 2019. Padmashree Dr. Bimal Roy, former Director Indian Statistical Institute, Kolkata conducted an interactive session with M.Sc(BDA) students on 16th Sept, 2019, on the college campus. Dr. Pinakpani Pal and Dr. Samarjit Das from Indian Statistical Institute conducted a session on Case study-based approach on statistical data and data modeling in computer science on 23rd Jan 2020, on the college campus. A session on AI case studies was conducted by Dr. Santhosh Mohanty, Vice President, TCS on 22nd Feb, 2020, at the college.

Dr. Bimal Roy, former Director Indian Statistical institute, Kolkata, conducted a video conference session with M.Sc(BDA) Faculty on 14th Jan ,2020. Dr. Pinakpani Pal and Dr. Samarjit Das conducted an interactive session with the faculty of M.Sc(BDA) on 23rd Jan, 2020 as a part of "Train the Trainer programme" on the campus.



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

2018 – 2019



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

The following students of St. Xavier's College, Mumbai assisted Centre for Environmental Research and Education (CERE), Mumbai with Bajaj Electricals Private Ltd 'Tree Audit Project' which involved identifying and geo-tagging the trees planted in various plantations across India.

Student name	UID
Varsha Giri	168304
Varada Chachad	168306
Gupta Sadanand	168305



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



Centre for Environmental Research and Education

To whomsoever it may concern,

This is to certify that **Ms. Varsha Giri** assisted CERE with Bajaj Electricals Limited Tree Audit Project from January 2019 to March 2019.

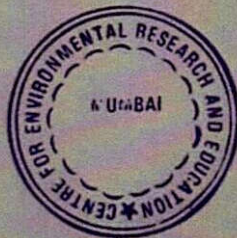
CERE conducted site assessment through the process of geo-tagging which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Ms. Varsha Giri was involved in on-field geotagging activities and also shared their expertise on species type and distribution.

This letter recognizes your immense hard work and contribution to the project.

Kind Regards

Kitayun Rustom
Kitayun Rustom
Co-Founder





Centre for Environmental Research and Education

To whomsoever it may concern,

This is to certify that Ms. Varada Chachad assisted CERE with Bajaj Electricals Limited Tree Audit Project from January 2019 to May 2019.

CERE conducted site assessment through the process of geo-tagging which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Ms. Varada Chachad was involved in on-field geotagging activities and also shared their expertise on species type and distribution.

This letter recognizes your immense hard work and contribution to the project.

Kind Regards

Kitayun Rustom

Kitayun Rustom
Co-Founder





Centre for Environmental Research and Education

To whomsoever it may concern,

This is to certify that **Mr. Sadanand Gupta** assisted CERE with Bajaj Electricals Limited Tree Audit Project in the month of March 2019.

CERE conducted site assessment through the process of geo-tagging which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Mr. Sadanand Gupta was involved in on-field geotagging activities and also shared their expertise on species type and distribution.

This letter recognizes your immense hard work and contribution to the project.

Kind Regards

Kitayun Rustom
Kitayun Rustom
Co-Founder





ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.


☎ 2262 0661/65

**List of students who participated in the module on Clinical Data Management
conducted by Phoenix Progressive Certifications Enterprise Pvt Ltd
as a part of Diploma in Clinical Research at St. Xavier's College, Mumbai
during 2018-19**

Sr. No.	Student Name
1	Rupashi Lal
2	Rebecca Mendonsa
3	Pratibha Gaikwad
4	Laxmi Kokare
5	Prachi Khekare
6	Shikha Kanojia
7	Mary Stephen
8	Shreshtha Mody
9	Amal Menon
10	Eeshaan Pundalik
11	Madhavi Rane
12	Aliya Vakil
13	Shubhangu Surve
14	Saleheen Khan
15	Manogat Takore



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya (Autonomous),

Near Central Bus Stand, Chandra Nagar, Latur-413512 (Maharashtra)

Affiliated To Swami Ramanand Teerth Marathwada University, Nanded

Arts, Commerce, Science, Comp. Sci. & I.T., Biotechnology and B. Voc.

NAAC Accredited B⁺⁺ Grade (3rd Cycle) with CGPA 2.99

Dr. Gopalrao Patil
President

Anirudh Jadhav
Secretary

Dr. Mahadev Gavhane
Principal

Ref: RSML/BoS/2018-19/ 21

Date: 19.03.2019

To,

Dr. M.H. Gavhane & all members,

Department of Political Science,

RSM Latur. (Autonomous)

Sub: BoS membership of our autonomous college.

Respected Sir,

I am pleased to inform you that, you are nominated as Chairman of Board of Studies in Political Science and following faculty members are nominated as member of BoS for the academic year 2018-19, 2019-20, 2020-21.

Sr.No.	Name	Category
1	Shri. D.M. Bansode	Faculty
2	Shri V.D. Waghmare	Faculty
3	Shri. S.S. Patil	Faculty
4	Dr. R.S. Solapure	Faculty
5	Dr. Mohan Kashikar	Academic Council Nominee
6	Dr. Dattatray Chandrakant Wabale	Academic Council Nominee
7	Dr. Ajay Gavhane	Expert by VC
8	Shri. Kaustubh Bhalchandra Kulkarni	Industry Nominee
9	Dr. Panjab Chavan	Expert from outside for special courses
10	Dr. Jagdish Deshmukh	PG Alumni's
11	Dr. O.V. Shahapurkar	Other Members
12	Ms. Pratiba Naitthani	Invitee Member

Kindly, accept the nomination and cooperate.

Thanking You.

Yours Faithfully,


Principal
Rajarshi Shahu Mahavidyalaya,
LATUR-413 512



Shri Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya Latur 413512 (Maharashtra)
(Autonomous)

(Affiliated To Swami Ramanand Teerth Marathwada University, Nanded)
(Arts, Commerce, Science, Biotechnology, Comp.Sci. & I.T.)
NAAC Reaccredited "A" Grade with 3.38 CGPA
CPE Status (Phase III) Granted by UGC & FIST Scheme by DST, Govt. of India
Best College Award (Urban) by SRIM University
ISO 9001 : 2008 (QMS) Certification

Dr. Gopalrao Patil
President

Anirudh Jadhav
Secretary

Dr. Mahadev Gavhane
Principal

Ref: RSML/Autonomous/BoS/2018-19/6577

Date: 15-04-2019

To,

Mrs. Shyamala P. Bodhane
Dept. of Physics,
Xavier's College, Mumbai

Subject: Thanks giving letter.

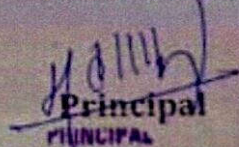
Madam,

With reference to above subject, we are very much grateful to you for actively participating the BoS meeting in **Physics** at our college on 15-04-2019.

Looking forward to work together in future.

Thanks once again.

Yours faithfully,


Principal

Rajarshi Shahu Mahavidyalaya
LATUR - 413512




ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

List of students who participated in Sahabhag, CMO internships:

Name of the student	UID	Duration
Ms Urmi Narsule	199020	9 th May to 19 th July 2019
Ms Nidhi Sinha	171281	9 th May to 15 th June 2019
Ms Manswini Abhyankar	188101	18 th Jan to 18 th Feb 2019
Ms Divya Mayadas	131351	3 rd Oct to 25 th Oct 2018



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



18th July 2019

EXPERIENCE CERTIFICATE

This is to certify that Urmi Narsule has served in Sahabhag – Social Responsibility Cell of Chief Minister's Office, Government of Maharashtra from 9th May 2019 to 19th July 2019. During the mentioned tenure, Urmi was involved in the capacity of a Research Intern – Data Analytics. Urmi displayed satisfactory performance during the tenure and added value to the work assigned to her.

Below are the project details:

Project Name: ICDS and Health Infrastructure Assessment, Zilla Parishad, Palghar district

Location: CTARA IIT Bombay

Guide: Digvijay Bendrikar Shinde.

We wish her all success in future endeavours.

For Chief Minister's Office, Maharashtra

Priya Khan
Officer on Special Duty to Hon.' Chief Minister, Maharashtra



July 1st, 2019

EXPERIENCE CERTIFICATE

This is to certify that Nidhi Sinha has served in Sahabhag, Social Responsibility Cell of Chief Minister's Office, Maharashtra from 9th May 2019 to 15th June 2019. At the time of leaving, she was working in the capacity of Sahabhag Research Intern. Below are the project details:

Project Name: ICDS and Health Infrastructure Assessment, Zilla Parishad, Palghar district
Duration: 1 month
Location: CTARA IIT Bombay
Guide: Digvijay Bendrikar Shinde.

The intern displayed satisfactory performance during the tenure and added value to the work assigned to her.

We wish her all success in future endeavours.

For Chief Minister's Office, Maharashtra

A handwritten signature in black ink, appearing to read "Priya Khan", with a small flourish at the end.

Priya Khan
Officer on Special Duty, Hon'ble Chief Minister, Maharashtra



CHIEF MINISTER'S SECRETARIAT

Mantralaya, Mumbai 400 032
www.maharashtra.gov.in

Date:

Date: 19th February, 2019

To whomsoever it may concern

Dear Sir/Madam,

This is to certify that Ms. Manasvini Abhyankar has successfully completed her internship with Mahila Arthik Vikas Mahamandal (MAVIM), Government of Maharashtra as an intern from 18.01.2019 to 18.02.2019. Her performance has been judged to be good throughout the course of the internship. The internship has been facilitated by Sahabhag, the social responsibility cell of Chief Minister Office.

We wish her good luck for future projects and endeavours.

Yours,

Priya Khan
Officer on Special Duty to Hon. Chief Minister
Government of Maharashtra

CERTIFICATE OF RECOGNITION

This certificate is awarded to

Divya Mayadas

for contributing to onboarding of Community Managed Resource Centres of Mahila Arthik Vikas Mahamandal (MAVIM), Government of Maharashtra on the Amazon Saheli platform.
We wish her well for future endeavours

Date: 03-10-2018 to 25-10-2018



Government of
Maharashtra



PRIYA KHAN

Officer On Special Duty to Hon'ble Chief Minister





ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

2017 – 2018




ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

The following students of St. Xavier's College, Mumbai assisted Centre for Environmental Research and Education (CERE), Mumbai with auditing of third-party plantation as a part of Urban Afforestation Programme which involved identifying and geo-tagging the trees planted in various plantations across India.

Student Name	UID
Kiran Thumma	148320
Jahnavi Jadhav	158305
Gupta Sadanand	168305
Varada Chachad	168306



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



Centre for Environmental Research and Education

7 June 2018

To whomsoever it may concern,

This is to certify that **Ms. Kiran Mohan Thumma** assisted CERE with the auditing of third-party plantations as part of our Urban Afforestation Programme (UAP) from March 2018 to May 2018.

CERE conducted this assessment through the process of geo-tagging saplings which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Ms. Kiran Mohan Thumma was a member of the CERE team undertaking field work for species identification and distribution.

CERE is extremely grateful for the hard work and contribution of **Ms. Kiran Mohan Thumma** to the project.

Thanking you.

Best regards.

Kitayun Rustom

Kitayun Rustom
Dy. Director, CERE



Centre for Environmental Research and Education

7 June 2018

To whomsoever it may concern,

This is to certify that **Ms. Janhavi Siddharth Jadhav** assisted CERE with the auditing of third-party plantations as part of our Urban Afforestation Programme (UAP) from March 2018 to May 2018.

CERE conducted this assessment through the process of geo-tagging saplings which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Ms. Janhavi Siddharth Jadhav was a member of the CERE team undertaking field work for species identification and distribution.

CERE is extremely grateful for the hard work and contribution of **Ms. Janhavi Siddharth Jadhav** to the project.

Thanking you.

Best regards,

Kitayun Rustom

Kitayun Rustom
Dy. Director, CERE



Centre for Environmental Research and Education

7 June 2018

To whomsoever it may concern,

This is to certify that **Mr. Sadanand Mithailal Gupta** assisted CERE with the auditing of third-party plantations as part of our Urban Afforestation Programme (UAP) from March 2018 to May 2018.

CERE conducted this assessment through the process of geo-tagging saplings which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Mr. Sadanand Mithailal Gupta was a member of the CERE team undertaking field work for species identification and distribution.

CERE is extremely grateful for the hard work and contribution of **Mr. Sadanand Mithailal Gupta** to the project.

Thanking you.

Best regards,

Kitayun Rustom

Kitayun Rustom
Dy. Director, CERE



Centre for Environmental Research and Education

7 June 2018

To whomsoever it may concern,

This is to certify that **Ms. Varada Mangesh Chachad** assisted CERE with the auditing of third-party plantations as part of our Urban Afforestation Programme (UAP) from March 2018 to May 2018.

CERE conducted this assessment through the process of geo-tagging saplings which involved identifying the species type and unique GPS location of each tree planted at various plantations located across India.

Ms. Varada Mangesh Chachad was a member of the CERE team undertaking field work for species identification and distribution.

CERE is extremely grateful for the hard work and contribution of **Ms. Varada Mangesh Chachad** to the project.

Thanking you.

Best regards.

Kitayun Rustom

Kitayun Rustom
Dy. Director, CERE



SATISH PRADHAN
DNYANASADHANA COLLEGE, THANE
(ARTS, SCIENCE & COMMERCE)

spdcoffice@dnyanasadhanacollege.org

EST : 1980 (Reg. No. MAH/759/THN) • Reaccredited by NAAC with 'B' Grade • Affiliated to University of Mumbai
Website : www.dnyanasadhanacollege.org • email : dnyanasadhanacollege@gmail.com

Off. Eastern Express Highway, Dnyanasadhana Marg, Thane (W) - 400604 ☎ : 25821615/25830722 Fax : 25801999

Satish Pradhan Dnyanasadhana College – Thane (Arts, science & Commerce)

To,
The principal
Dr Rajendra Shinde
St. Xavier's College (autonomous) Mumbai

Subject: Signing of MOU

Sir,

The Department of Botany of Satish Pradhan Dnyanasadhana college, Thane (arts, science & commerce) signed a **memorandum of understanding (MOU)** with the Blatter Herbarium & the Department of Botany of the St. Xavier's College (autonomous) Mumbai on **17th May 2017**.

Under the clause of the MOU we conducted activities like **Field Trips, Plant identification, Tree Census and Vegetation Survey**. All the details were well documented and presented. A good number of students from undergraduate as well as postgraduate classes participated.

The outcome was that the work contributed to the **"Green Initiative"** activities of our college and also helped to enhance the students knowledge and field studies.

B.H.C.
Dr Hemant Chitte

I/C Principal





K.M.E. Society's

G. M. MOMIN WOMEN'S COLLEGE

Affiliated to the University of Mumbai, Reaccredited by NAAC with 'A' Grade, ISO 9001:2008 Certified Institution,
Recipient of Best College Award
Selected for Star College Scheme of DBT, Ministry of Science & Technology

ARTS • SCIENCE • COMMERCE • SELF FINANCING COURSES

20/2/2020

To,
The Principal,
St. Xavier's College
Mumbai

Sub: Successful execution of activities through the MoU between our institutions

Dear Sir,

It gives me great pleasure to share few details of the successful collaboration with St. Xavier's College, Mumbai through MoU between our institutions, effective since February 2018. In the past two years or so, I acknowledge with gratitude several constructive activities where our students from the power loom town of Bhiwandi got opportunities to visit St. Xavier's College, Mumbai and interact with your students and staff and participate in your activities. Some such noteworthy area of interactions being:

1. Participation of our team of students in your Physics exhibition with their working models.
2. Conduct of 3 workshops for our students on 'Dry Herbarium Technique' in Fr. Blatter Herbarium.
3. Providing of invitation passes for Malhaar Festival at St. Xavier's College, Mumbai and wholehearted participation of our teams of students and staff in the same.
4. Opportunities for our students to participate in workshops during Malhaar Festival along with workshop certificates
5. Academic interactions between students, staff, HODs and Principals of our two institutions.
6. Providing valuable guidance to our institution on academic and administrative issues.
7. Making publications of Fr. Blatter Herbarium available to our library at concessional rates.
8. Making your college and library infrastructure and facilities available for our students and staff whenever requested for.

All the above joint activities are acknowledged with gratitude and thanks.

Thanking You,

Yours sincerely,

Dr. MOSES J. KOLET
PRINCIPAL
K. M. E. Society's
G. M. Momin Women's College, Bhiwandi



Department of Botany,
St. Xavier's College, Mumbai
(An Autonomous Institution under University of Mumbai)

organizes Special Lectures



Dr. Ranee Om Prakash
(Curator of Flowering Plants –General Herbarium, Department of Life Sciences, The
Natural History Museum, London, United Kingdom)



Dr. Mark Carine
(Principal Curator in Charge of the Algae, Fungi and Plants Division, Department of Life
Sciences, The Natural History Museum, London, United Kingdom)

on 10th February 2020

from 10.00 am to 12.00 pm in Botany Department



Shinde
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



DEPARTMENT OF BOTANY
ST. XAVIER'S COLLEGE
(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

© 2262 0661/65

10th February 2020

Dr. Mark Carine

Principal Curator in Charge of
Algae, Fungi and Plants Division,
Department of Life Sciences,
The Natural History Museum,
London, United Kingdom.

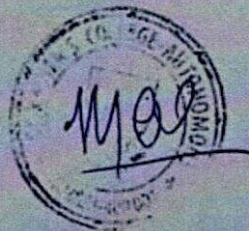
Dear Dr. Mark Carine,

We are grateful to you for accepting our invitation to give a talk on Plant Taxonomy on 10th February 2020, at the Botany Department of St. Xavier's College (Autonomous), Mumbai, India.

We appreciate you making time in your busy schedule to speak to the participants. They were enriched by your expertise and experience which has enhanced the scientific temper in our institution.

Thank you,
Yours sincerely,

Dr. Rajendra D. Shinde
Principal





DEPARTMENT OF BOTANY
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

10th February 2020

Ms. Rane Om Prakash
Curator of Flowering Plants- General Herbarium,
Dept. of Life Sciences,
The Natural History Museum,
London, United Kingdom.

Dear Ms. Rane Om Prakash,

We are grateful to you for giving a talk entitled 'Samuel Browne: A cross-cultural study of medicinal plant use' on 10th February 2020, at the Botany Department of St. Xavier's College (Autonomous), Mumbai, India.

We appreciate you making time in your busy schedule to speak to the participants. They were enriched by your expertise and experience which has enhanced the scientific temper in our institution.

Thank you,
Yours sincerely,

Dr. Rajendra D. Shinde
Principal



Rane Om Prakash

Department of Botany, St. Xavier's College (Autonomous), Mumbai.
Special Lecture by Mark Carine and Raneem Om Prakash, 10th February 2020
Attendance Sheet

Sr. No.	Name	College / organization	Signature
1.	Saloni Kothari	St. Xavier's College	<i>Saloni Kothari</i>
2.	Yagnit Vadhel	St. Xavier's College	<i>V.V.</i>
3.	Priyanka Mane	Sathaye college	<i>Pmane</i>
4.	Rashmi Pandey	Sathaye College	<i>R.Pandey</i>
5.	Harshada Rane	Sathaye college	<i>Rane</i>
6.	Supriya Berde.	Sathaye college	<i>Berde</i>
7.	Aarti Arde	Sathaye college	<i>Arde</i>
8.	Chaitali Pujare	Sathaye college	<i>CP</i>
9.	SHIPRA MUBASTORA	MAHARASHTRA COLLEGE	<i>Mubastora</i>
10.	Ansari Ayesha Aqueel	Maharashtra College	<i>Ayesha</i>
11.	Pratiksha Jadhav	K.J. Somaiya College.	<i>P.Jadhav</i>
12.	Keval Jashi	K.J. Somaiya College	<i>K.J.</i>
13.	Licy Almeida	St. Xavier's College	<i>al</i>
14.	Aishwarya Chavan	St. Xavier's college	<i>Aishwarya</i>
15.	Niharika Damle	St. Xavier's college	<i>NORAMIE</i>
16.	Poonam Nikalje	St. Xavier's college	<i>Poonam</i>
17.	Tapasya S. Panikar.	St. Xavier's College	<i>Tapasya</i>
18.	Sana Parvez Patel	Maharashtra College	<i>Sana</i>



Alinda
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

Department of Botany, St. Xavier's College (Autonomous), Mumbai.
Special Lecture by Mark Carine and Ranee Om Prakash, 10th February 2020
Attendance Sheet

Sr. No.	Name	College / organization	Signature
19.	Shaikh Sidrah Sajid.	Maharashtra College	Sidrah
20.	Khan Kulsum Abdul Karim	Maharashtra College	Khan
21.	Kausar Farook Parmar	Maharashtra College	Kausar
22.	Prathamesh Kesarkar	St. Xavier's college	Kesarkar
23.	Farzan. Afkum.	St. Xavier's College	Farzan
24.	Madhu Rathod	K.J. Somaiya college	Rathod
25.	Vaishali Pingle	K.J. Somaiya college	Pingle
26.	Prajakta B Kale	K.J. Somaiya college	Prajakta
27.	Ansari md. Hammad.	Maharashtra College.	Ansari
28.	Pratik. B. Bavi	St. Xavier's	Pratik
29.	Ketan S. Kathole.	St. Xavier's college	Kathole
30.	Elvie D'Costa	St Xavier's college.	Elvie D'Costa
31.	MARIBELLE VIANA	St. Xavier College	Maribelle
32.	VALESKA FERNANDES	St. Xavier's College	Valeska
33.	LANUNUCHETLA LONGKUMER	St. Xavier's college.	Longkumer
34.	ADYA JYOTI DAS	St. Xavier's College	Adya
35.	Ayesha Shaikh	St. Xavier's Ctg	Ayesha
36.	Newaxish Sayed	St. Xavier's College	Newaxish



(Signature)
PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.

Department of Botany, St. Xavier's College (Autonomous), Mumbai.
 Special Lecture by Mark Carine and Raneer Om Prakash, 10th February 2020
Attendance Sheet

Sr. No.	Name	College / organization	Signature
37.	Gireesh yadav.	St. Xavier's College	
38.	Harsh Pant	St. Xavier's College	
39.	Janhavi S. Jadhav.	St. Xavier's College. (The Blatter Herbarium).	
40.	Laxmi J. Dagawri	Somnaji college	
41.	Aditi A. Nimballkar	St. Xavier's College	
42.	Riddhi A. More	St. Xavier's College	
43.	Vaishnavi v. Palekar	St. Xavier's College	
44.	Lalhmungrani	St. Xavier's College	
45.	Anagha Sarthosh	St. Xavier's College	
46.	Jidnyasa. S. Tare	St. Xavier's college	
47.			
48.			
49.			
50.			
51.			
52.			
53.			
54.			



PRINCIPAL
 ST. XAVIER'S COLLEGE
 (AUTONOMOUS)
 MUMBAI - 400 001.



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

2016 – 2017




ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

**List of students who participated in the module on Clinical Data Management
conducted by Phoenix Progressive Certifications Enterprise Pvt Ltd
as a part of Diploma in Clinical Research at St. Xavier's College, Mumbai
during 2016-17**

Sr.No.	Student Name
1	Kshiteej Sode
2	Keith Costa
3	Hubashia Rizvi
4	Aroka Anna
5	Piyali Jana
6	Drashti Shah
7	Greeshma Abraham
8	Priyanka Desai
9	Sandip Thakre
10	Zaran Mehta
11	Priyanka Margaj
12	Pratishtha Biswas
13	Janhavi Sawant



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.




ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

St. Xavier's College, Mumbai and St. Xavier's College, Jaipur Exchange program details as follows:-

2016-17	From Mumbai to Jaipur	2 nd -9 th November 2016	No teacher and 7 students
	From Jaipur to Mumbai	10 th -17 th January 2017	Prof Yashwardhan Singh and Prof Boola Singh along with 12 students
2017-18	From Mumbai to Jaipur	No Program	No teacher and no students (Program got cancelled due to exams)
	From Jaipur to Mumbai	20 th -26 th November 2017	Prof Roxanne Castellias and 12 students
2018-19	From Mumbai to Jaipur	17 th -23 rd September 2018	Prof Aditi Sawant and 13 students
	From Jaipur to Mumbai	4 th -10 th January 2019	Prof Poorvi Medatwal and 8 students
2019-20	From Mumbai to Jaipur	4 th -9 th Nov 2019	Prof Aparna Kulkarni and 8 students
	From Jaipur to Mumbai	14 th -21 st January 2020	Prof Sunita Chaudhari and 8 Students



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU


PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.



St Xavier's College

Approved under Section 2(f) & 12(b) of the UGC Act, 1956
(Affiliated to the University of Rajasthan, Jaipur)
(A Christian Minority Jesuit Institution)

Hathroi Fort Road, Jaipur – 302001, Rajasthan-India
Tel : 0141-2370296/2371290, 9828726366
Website: www.stxaviersjaipur.org Email: info@stxaviersjaipur.org

25th May 2020

To

The Principal
St Xavier's College (Autonomous)
5, Mahapalika Marg, Mumbai

Sub: Student Exchange Programme for the session 2019-20 with St Xavier's College (Autonomous), Mumbai – Regarding.

Dear Sir,

Warm greetings!

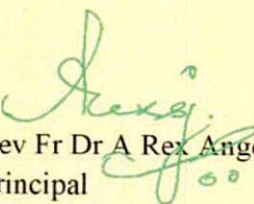
I wish to declare with gratitude that St Xavier's College, Jaipur had the pleasure of hosting the students and faculty (Dr Aparna Kulkarni) of your esteemed College as a part of our 'Student Exchange Programme 2019-20' during 4th & 9th November, 2019. Consequently, our students and faculty (Dr Sunita Choudhary) visited your reputed institution during 14th & 21st January 2020 under the same programme hosted by your renowned institution. It was indeed a great learning and sharing experience to both groups of students and staff.

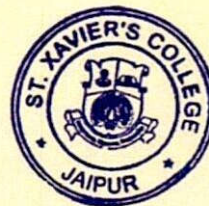
I acknowledge that, due to the practical difficulties arising out of the conduct of the local university examinations at the time of our original schedule, the same Student Exchange Programmes were conducted by both our institutions after the expiry of the MoU in 2018-19. In spite of the change of the original schedule, the programme was highly successful. With the very positive feedback received by both groups, I strongly recommend that we consider revising and extending the MoU for Student Exchange Programme between both our institutions for the next three years too.

We await your favourable concurrence at your earliest.

With warm regards,

Yours sincerely,


Rev Fr Dr A Rex Angelo SJ
Principal
St Xavier's College, Jaipur





St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

To

9th November 2019

Ms Aparna Kulkarni

Asst. Professor, Department of Economics

St Xavier's College (Autonomous)

Mumbai

Letter of Appreciation

Dear Ma'am

We appreciate your contribution towards the Student Exchange Program at St. Xavier's Jaipur from 4th to 9th November, 2019. Thank you for actively participating and taking sessions.

We look forward for such kind of collaborations in future as well.

Kindly accept our heartfelt gratitude.

Warm Regards

Dr. Sheila Rai

Principal

St Xavier's College, Jaipur



St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

Student Exchange Agreement (SEA)

St. Xavier's College, Jaipur and St. Xavier's College (Autonomous), Mumbai have intended, agreed and consented to the following terms and deeds in pursuance of a common interest as a valuable partner for Student Exchange Program 2018-19.

Mutual terms and conditions:-

1. The period of the visit will be 17th to 24th September 2018 for St Xavier College, Mumbai (Autonomous) to St Xavier's Jaipur and St Xavier's Jaipur to St Xavier's Mumbai (Autonomous) will be 7th January to 14th January 2019.
2. Total students as per mutual agreement will be 15 (maximum).
3. Accommodation and Lunch for visiting students and accompanying faculty member(s) will be arranged by the host college at no cost basis. Breakfast and dinner will be arranged by the host college which will be chargeable.
4. Travelling expense of students will be borne by the students themselves. This includes the city tour as well. For an academic or industrial trip, if any, expenses will be borne by the host college.
5. The host college can send TWO faculties along with the students as per mutual agreement. The food, accommodation and travelling (within the city) expenses will be taken care off by the host college.

Miscellaneous:-

1. The details for the efficacious implementation of this MOU shall be jointly worked out on mutually acceptable terms within the parameters of policies, rules and regulations of both the institutions.
2. The Student Exchange Agreement (SEA) shall remain in force till 14th January, 2019 from the date of its signature and seal.

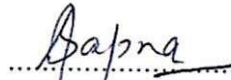
Signed By –


.....

For St. Xavier's College, Jaipur
Dr. Sheila Rai
Principal


.....

For St. Xavier's College (Autonomous), Mumbai
Dr Rajendra Shinde
Principal

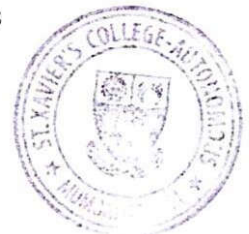

.....

Dr. Sapna Newar
Coordinator, Student Exchange Programme

Place: Jaipur


.....

Dr. Aditi Sawant
HoD, Department of Economics
Place: Mumbai





St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

Date: 22nd September, 2018

To,

Prof. Aditi Sawant
Associate Professor
St Xavier's College (Autonomous),
Mumbai

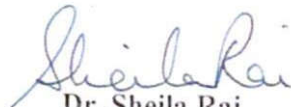
Letter of Appreciation

Dear Ma'am,

This is to thank you for coordinating the student exchange programme between St Xavier's College, Jaipur and St Xavier's College, Mumbai from 17th September to 22nd September, 2018. We would also like to thank you for taking lectures on topics 'India's Competitiveness in Cotton Market under WTO Regime' and 'Ricardian Model of International Trade'.

The programme was enriching for our students as it helped them to explore different methodologies of study in a new cultural context, while they interacted with your students from Mumbai. We hope that we will continue to organize these kind of programmes in future as well.

Warm regards,


Dr. Sheila Rai
Principal


Fr. Joshy Kuruvilla, S.J.
Vice-Principal



St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

Student Exchange Agreement (SEA)

St. Xavier's College, Jaipur and St. Xavier's College (Autonomous), Mumbai have intended, agreed and consented to the following terms and deeds in pursuance of a common interest as a valuable partner for Student Exchange Program 2017-18.

Mutual terms and conditions:-

1. The period of the visit will be 17th to 23rd September 2017 for St Xavier College, Mumbai (Autonomous) to St Xavier's Jaipur and St Xavier's Jaipur to St Xavier's Mumbai (Autonomous) will be 20th November to 26th November 2017.
2. Total students as per mutual agreement will be 15 (maximum).
3. Accommodation and Lunch for visiting students and accompanying faculty member(s) will be arranged by the host college at no cost basis. Breakfast and dinner will be arranged by the host college which will be chargeable.
4. Travelling expense of students will be borne by the students themselves. This includes the city tour as well. For an academic or industrial trip, if any, expenses will be borne by the host college.
5. The host college can send TWO faculties along with the students as per mutual agreement. The food, accommodation and travelling (within the city) expenses will be taken care off by the host college.

Miscellaneous:-

1. The details for the efficacious implementation of this MOU shall be jointly worked out on mutually acceptable terms within the parameters of policies, rules and regulations of both the institutions.
2. The Student Exchange Agreement (SEA) shall remain in force till 27th November, 2017 from the date of its signature and seal.

Signed By –

For St. Xavier's College, Jaipur
Dr. Sheila Rai
Principal

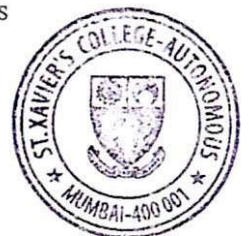
Dr. Sapna Newar
Coordinator, Student Exchange Programme

Place: Jaipur

For St. Xavier's College (Autonomous), Mumbai
Dr Rajendra Shinde
Vice-Principal

Dr. Aditi Sawant
HoD, Department of Economics

Place: Mumbai





St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

To,

6 December 2017

**Prof. Aditi Sawant,
Associate Professor
Department of Economics
St Xavier's College (Autonomous)
Mumbai**

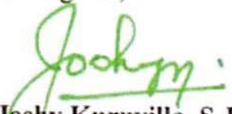
Letter of Appreciation

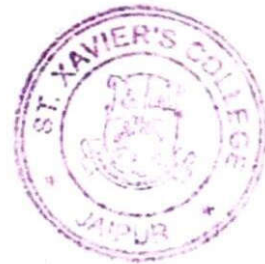
Dear Madam,

This is to thank you for organizing the Student Exchange Programme between St. Xavier's College (Autonomous) Mumbai and St. Xavier's College, Jaipur from 20th to 26th November, 2017.

The programme was enriching for our students as it helped them to explore different methodologies of study, in a new cultural context, while they interacted with your students in Mumbai. We hope that we can continue to organize these programmes in future as well.

Warm Regards,


**Fr. Joshy Kuruvilla, S.J.
Vice Principal**





St. Xavier's College

(Affiliated to University of Rajasthan)

Hathroi Fort Road, Jaipur-302001, Rajasthan-India

Tel : 0141-2370296 / 2371290

Website : www.stxaviersjaipur.org Email : stxavierscollegejpr@gmail.com

To,

24 January 2017

Dr Aditi Sawant

Head,

Department of Economics,

St. Xavier's College (Autonomous),

Mumbai.

Subject: Letter of Appreciation

Dear Ma'am,

St. Xavier's College, Jaipur wishes to thank you for fostering an intellectually stimulating student exchange program between the students of Department of Economics of St. Xavier's College, Jaipur and St. Xavier's College, Mumbai from 10th to 17th January 2017. Your guidance to our students during classroom teaching and Annual Seminar at Khandala has proved to be greatly helpful. We also thank you for coordinating and successfully conducting the exchange program which included classroom teaching, presentations, assignments, RBI visit and local sightseeing for the students.

We look forward to such fruitful exchange programs in the future as well.

Thanking you.

Yours sincerely,

Rev. Dr. V. Gilbert Camillus, S.J.
Principal



Ms. Sapna Newar
Director, Exchange Program



DEPARTMENT OF ECONOMICS
ST. XAVIER'S COLLEGE
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0662/65

To,
Prof. Sapna Somani
Department of Economics
St. Xavier's College,
Jaipur

Subject: Letter of Appreciation

Dear Madam,

On behalf of the Economics Department, I would like to thank you for organizing an academic exchange program from 10th-17th January 2017 at St. Xavier's (Autonomous) College, Mumbai.

I am sure that students and faculty have been benefitted with this exchange program which helps to understand and learn different cultures, economic & social systems of different states & help in building national integrity.

It has been a pleasure working with you, and I look forward to working with you in future educational endeavors.

Regards,

Dr. Aditi Sawant
Head, Department of Economics
St. Xavier's (Autonomous) College
Mumbai-01



ST. XAVIER'S COLLEGE
(AUTONOMOUS)
5, Mahapalika Marg, Mumbai - 400 001,
INDIA.
☎ 2262 0661/65

2015 – 2016



ST. XAVIER'S COLLEGE

(AUTONOMOUS)

5, Mahapalika Marg, Mumbai - 400 001,
INDIA.

☎ 2262 0661/65

**List of students who participated in the module on Clinical Data Management
conducted by Phoenix Progressive Certifications Enterprise Pvt Ltd
as a part of Diploma in Clinical Research at St. Xavier's College, Mumbai
during 2015-16**

Sr.No.	Student Name
1	Namrata Jain
2	Ishan Sharma
3	Priyamvada Verma
4	Shabbir. A
5	Roseline. A
6	Samina Kazi
7	Lisha Gracias
8	Sneha Maurya
9	Ralston Dsouza
10	Nikita Bangera
11	Vishakha Kamble
12	Akshi Berry
13	Nishhigandha S
14	Charvee Asnani
15	Swapnil Masurkar
16	Janhavi Sawant
17	Vinay Kuspetty
18	Lina Korgaonkar
19	Anjali Kumari
20	Manali B



NAAC SSR Cycle 4 (2015-2020):
3_7_2_Additional_Information_MoU

PRINCIPAL
ST. XAVIER'S COLLEGE
(AUTONOMOUS)
MUMBAI - 400 001.