

Mathematics and Statistics Department Report (2023-2024)

Preliminary information

I. Department profile:

Ms. Sandra Mendes, Head of Department and Associate Professor

Ms Vidya Konar, Ad-hoc Professor

II. Courses/Papers taught:

1. FYBSc Mathematics MINOR Semester I: Calculus -1
2. FYBSc Statistics MINOR Semester I: Descriptive Statistics-1
3. FYBSc Mathematics MINOR Semester II: Calculus -2
4. FYBSc Statistics MINOR Semester II: Descriptive Statistics-2
5. FYBSc Vocational Skills Course (VSC - 1) Semester I: Financial Mathematics
6. FYBSc Vocational Skills Course (VSC - 2) Semester I: Optimisation Techniques
7. FYBSc Vocational Skills Course (SEC - 1) Semester II: Mathematics of Financial Investments
8. FYBSc Vocational Skills Course (SEC - 2) Semester II: Mathematics in Project Scheduling
9. FY Open Elective Course (OE203A) : Graphical Representation of Numerical Information
10. FY Open Elective Course (OE203B) : Number Systems and Their Applications
11. FY Value Education Course (VEC206) - Digital Empowerment
12. SYBA Statistics Semester 3 : SBASTT301 Statistical Methods -1
13. SYBA Statistics Semester 3 : SBASTT302 Operations Research and Techniques for Management - 1

14. SYBA Statistics Semester 4 : SBASTT401 Statistical Methods -2
15. SYBA Statistics Semester 4 : SBASTT402 Operations Research and Techniques for Management - 2

III. **BOS composition:**

1. Head of the Department (Chairperson).	Mrs. Sandra Mendes, Associate Professor, Dept of Mathematics & Statistics, Sophia College for Women Autonomous
2. The Vice-Chancellor's nominee.	Mrs. Smita Rajesh Patgoankar Associate Professor and Head, Dept of Statistics, Kirti M Doongursee College of Arts, Science & Commerce
3. Subject Experts	
Subject Expert (1):	Mrs. Pradnya Kandeparkar Senior Adjunct Professor, Dept of Statistics, SVK's NMIMS University
Subject Expert (2):	Dr. Ananthnarayan Hariharan Assistant Professor, Department of Mathematics, IIT Bombay
Subject Expert (3):	Dr. S. Annapurna Associate Professor , Department of Statistics, St. Xavier's College – Autonomous
Subject Expert (4):	Mrs Rekha Watve-Paradkar Associate Professor & Head, Department of Maths, SIES College of Arts, Science & Commerce
Subject Expert (5):	Mrs. Reena Shah Assistant Professor and Head, Department of Computer Science, Mulund College of Commerce
4. One representative from industry/corporate sector/allied area relating to placement.	Mrs. Harshada Shringarpure Chief Manager – Actuarial (Valuation team lead), Kotak Mahindra Life Insurance Company Ltd., Mumbai

5. One postgraduate meritorious alumna	Ms. Gayatri Maniar Shah Member, Leadership & Professional Development Team, Credit Suisse Business Analytics India Pvt Ltd, Mumbai
6. Other members of the department	Ms. Vidya Konar, Ad Hoc Professor Dept of Mathematics & Statistics, Sophia College for Women Autonomous

IV. Dates of BOS meetings: 27th October 2023 and 20th April 2024

Report

- Attended a Faculty Development workshop on “Basic Artificial Intelligence Tools for Educators” organized by IQAC, Sophia College (Empowered Autonomous) and supported by RUSA on November 30,2023. The resource person was Fr. Sabu Thomas, Assistant Professor, Department of English, Sacred Heart College, Kochi.
- Attended Research Colloquium (under the aegis of RUSA) organized by IQAC in association with R&D cell on December 1, 2023 where staff members recipient of RUSA and in-house research grants presented their research.
- Attended a workshop on “ Advanced Artificial Intelligence Tools for Educators” organized by IGNITE Life Skill Academy and IQAC, Sacred Heart College on December 3,2023.
- The Department of Mathematics and Statistics, in collaboration with the Department of History, organized a talk on Artificial Intelligence: Future of the Digital World; as part of ANANYA week on January 12, 2024 . The speakers for the talk were Rahul Mendes and Rahul Kowshik.
- A workshop on “Designing and Developing Learner centric 4-quadrant E- content” was organized by IQAC on 25th January 2024 from 9 am to 12:30 pm. The resource person was Mr. Mandar Bhanushe, CEED Coordinator, University of Mumbai, Kalina.
- Attended RUSA supported FDP session on “Enriching Quality: Discussion on NAAC Criteria” organized by IQAC Sophia College Autonomous, held on April 23,2024 (9am to 5pm)

1. Activities Conducted by the department:

1. A Talk on Artificial Intelligence organised jointly with Department of History as Ananya Event on 12th January 2024 - Around 50 students attended the talk.



2. A talk was organised by the Department of Mathematics and Statistics on the topic of “Career Prospects in Data Science”, by Ritu Rath on Friday 21st July, 2023 at 12.00 pm.

**The Department of
Mathematics and Statistics
presents a talk on**

**THE CAREER
PROSPECTS IN
DATA SCIENCE**

Keynote speaker:

Ritu Rath
Insight and Analytics
Consultant
(Ex L'Oréal)
(Ex Coca Cola)

Venue: Room 11

Date: 21st July, 2023

Time: 12:00 pm - 1:00 pm

CONTACT US:

Mansi Jha - 8369215300

Anagha Patil - 8856040677

Ayoshee Bose - 7208028960





2. Special pedagogical tools used, other than the lecture method

PPTs, Online Videos/Films, Articles (PDF and online) were shared in the Google Classroom.

5. Mentor Mentee programs conducted by the department.

Sandra Mendes and Vidya Konar were mentors to some FY students

Extension, Co-curricular & Field based Activities

- S Mendes conducted **two online lectures** for the Add-on Course in Social Research Methodology conducted by the department of Sociology. The topic was Quantitative Methods in Social Research and conducted on January 2024. Students were introduced on conducting data analysis using Excel.
- S Mendes conducted **three lectures** for the students of QAFI Batch 21 on the **Statistical Tools used in Quality Control** in the month of October. The topics involved basic data collection methods, statistical measures and their applications in Food Tests.
- A Certificate course(one credit) on Introduction to Data Analysis Using Excel was conducted for students of Sophia College for academic year 2023-24 The course was

of 8 sessions, each session of two hours along with assignments conducted through ZOOM . Each session was thorough and allowed students to perform functions simultaneously on their workbooks and get their doubts and queries cleared immediately by the instructor. In the end of each session post the doubt clearing, regular feedbacks were required to be submitted. There were 10 minutes quick quiz per week to be answered based on the session held. After the sessions, assignments were needed to be submitted per week before upcoming sessions. The assignments had sample data to perform the functions taught and explained in the session which were helpful for practice. At the end of the course, a project work was assigned with few sample data to choose from to perform a given number of functions of student's choice. The course was organized and conducted by Ms Vidya Konar.

II] Contribution to Department and college administration/activities :

Ms S Mendes:

- Head, Department of Mathematics & Statistics
- Member EXSP panel
- Coordinator of Time table Committee (Science)
- Coordinator of Admission Committee (Science)
- Member of IQAC
- NAAC Quantitative Data Collation Committee
- Junior Supervisor for the College Examinations Theory

Ms V Konar

- Member of Attendance Committee (Arts)
- Member of Remedial Teaching Committee (Arts)
- Member of Criterion-1 (NAAC)
- Junior Supervisor for the College Examinations Theory

**Sandra Mendes & Vidya Konar,
Dept of Mathematics and Statistics**