ST. XAVIER'S COLLEGE, MAPUSA GOA

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Nature of Event (Workshop, Guest Lecture, Add on Course, Seminar, etc.)	One Day National Webinar on 'New Trends in analytical Techniques'
Name of Department	Chemistry
Faculty Incharge	Ms. Janesline Fernandes Dr. Andrew D'Souza Ms Flavia Travasso Ms. Shivta Mhamal Mr. Clarence Rodrigues
Stratum of Event (College, State, Regional, National)	National
Title of Event	New Trends in Analytical Techniques
Date of Event	30th March 2022
Venue	Seminar Hall, St Xavier's College Mapusa-Goa
Resource Person details	Mr. Nelson Varghese, Application Manager HPLC/UHPLC, Thermo Fisher Scientific, India Mr Justin Peter Thermo Fisher Scientific, India Mr. Chandrakant Pawar Application Manager of Trace Elemental Analysis (TEA), Thermo Fisher Scientific India
Objective/Scope of Event	To provide students with knowledge on New Trends in Analytical Techniques
Particulars of Event	Mr. Justin Peter discussed some basics and some key points that are very important while developing a method on HPLC. He explained the different types of chromatography based on interactions with the column such as affinity chromatography, ion- exchange chromatography, size exclusion chromatography, reversed phase chromatography to name a few Operational principles and essential concepts were discussed. Theory of separation mechanisms and modes. Understanding the instrumentation including possible configurations, solvent delivery pumps, sample injectors, columns and detectors of HPLC. Discussed different types of detectors used to couple with liquid Chromatography such as UV-PDA, ECD and CAD etc Practical applications of HPLC in the Industry,

Particulars of Event	with real case studies. (Application areas: Pharma, Clinical, Plastics, Agro, Biopharma etc) HPLC method development strategies. Best practices in HPLC. Data interpretation with real data. Mr. Chandrakant Pawar discussed basics of elemental analysis, working principle of AAS, ICP-OES, ICPMS, hardware, sample analysis workflow. He explained that all the three techniques functioned on the principles of Absorption, emission and ionisation respectively in AAS he focused on advantages of Graphite furnace in atomiser transport efficiency, sample contribution residence time. In ICP-OES he introduced the fourth state of matter i.e. plasma also the different steps involved are Desolvation, Vaporization, Atomization and Ionisation. On ICPMS (Inductively coupled plasma Mass Spectrometry) which is an elemental technique based on producing, sampling, mass filtering and detecting positive ions. He discussed the applications which are also displayed on their website in pharma and environmental study samples, food samples and clinical research and finally using the hyphenation technique (IC-ICP-MS) how the metals based on valency are first separated and then analysed
Outcome of Event	Each student gained knowledge of New Trends in Analytical Techniques, Measurement devices available for chromatography and spectroscopy analysis and the proper selection and operation of instruments for analysis of samples.
Feedback	Very well organized.
Total No. of Participants	120

Photographs