



# Centurion University Technology and Management

School of Paramedics & Allied Health Science

## Workshop on X-Ray Technician

Date: 12-11-2019 to 13-11-2019

Number of Participants: 68

Resource Person: Prof. Sunil Kumar Jha

Venue: X-Ray Lab, SPAHS, Madhusudan Block

**About Resource Person:** Dr. Sunil Kumar Jha is working as the Dean of School of Paramedics and Allied Health Sciences at Centurion University of Technology and Management since 2016. He has also taken the responsibility of Director of Community Diagnostic Center. His major areas of expertise are medical diagnostics, clinical pathology, diagnostic bacteriology, histopathology and patient safety. He has completed MBA-HMGT, MLT, DAF, MHD and some of the courses in Alternative Medicine. He has a working knowledge of 20 years in various universities and hospitals in various capacities such as, visiting faculty at Sikkim Manipal University, Kalinga University, Raipur and IASE deemed University, Principal of Bhava Institute of Medical Science, Director of College of Medical Technology, Bhubaneswar. He has also worked with the Health Sector Skill Council and actively supported various government programs.

### About Session:

In these sessions it was discussed about reviewing existing X-ray techniques that can be used for the analysis of materials, inclusive of those used as engineering and structural components. These techniques are X-ray fluorescence (XRF) spectrometry, proton-induced X-ray emission (PIXE) spectrometry, and X-ray diffraction (XRD). These analytical techniques provide qualitative and quantitative information on the composition and structure of materials with precision. XRD gives information on the crystalline forms and amorphous content of materials, which could be quite useful in failure analysis if the type of failure brings about morphological changes in the material under investigation. PIXE and XRF provide information on the types of elements present in a sample material and their concentrations. PIXE is however preferable to

XRF due to its higher sensitivity to trace elements and lower atomic number elements as well as its faster analysis. XRF and XRD are more commonly used than PIXE which is a powerful, high-tech method that is relatively new in the field of chemical research. In this chapter, the theory and principles of these analytical techniques are explained, and diagrams showing the components of spectrometers and diffract meters are provided with descriptions of how they function.

### Objective

- Diagnostic imaging examinations e.g.; X-rays, CT etc.

### Outcome

This review has shown that a great deal of information is obtainable with precision from the use of X-ray techniques in the analysis of materials. Analysis by XRD technique provides information for the identification and quantitative determination of the various crystalline forms of a material so it is useful in detecting the morphological changes that have occurred in a material after failure, if the crystal lattice structure has been affected. XRF and PIXE are both useful in the determination of the elemental components of a material and their concentrations. However, PIXE, a powerful, high-tech analytical tool is preferable to XRF, due to its higher sensitivity to trace elements and lower atomic number elements as well as its faster analysis. However, if on-the-spot analysis is required as is sometimes the case in field work, EDXRF and WDXRF spectrometers would be preferred due to the advantage of portability.





 Centurion University

**Workshop on  
X-Ray Technician**

Date: 12-11-2019 to 13-11-2019  
Venue: X-Ray Lab, SPAHS, Madhusudan Block

Resource person: Prof. Sunil Kumar Jha  
Contact: 9337877658

Organised by  
School of Pharmacy  
Centurion University of Technology  
and Management

centurion university of technology and management  
*Shaping Lives... Empowering Communities...*

Figure: Clip from the SFS Skill workshop on X- ray Technician

## **Brochure of the workshop on X-ray Technician**

### **Participants List**



Centurion University of Technology and Management

Workshop on "X-Ray Technician"

Date: 12-11-2019 to 13-11-2019

Attendance Sheet

SL.N O	NAME OF PARTICIPANT	SIGNATURE
1	ADITYA SATAPATHY	Aditya Satapathy
2	AISHWARYA DASH	Aishwarya Dash
3	AISWARYA PRIYADARSHINI	Aiswarya Priyadarshini
4	AMITOSH RAY	Amitosh Ray
5	AMRUTA PATTANAİK	Amruta Pattanaik
6	ARADHANA SAHU	Aradhana Sahu
7	ARCHANA SAMAL	Archana Samal
8	ARPITA MOHAPATRA	Arpita Mohapatra
9	ASHISH CHAMPATY	Ashish Champaty
10	BANDITA PRADHAN	Bandita Pradhan
11	BIREN PATTANAİK	Biren Pattanaik
12	BISHWAJIT SHARMA	Biswajit Sharma
13	CHINMAYEE NAIK	Chinmayee Naik
14	DEBASIS PRUSTY	Debasis Prusty
15	DEEPAK SENDHA	Deepak Sendha
16	ISWAR RANJAN PANIGRAHI	Iswar Panigrahi
17	JANMAJAY SAMAL	Janmajay Samal
18	JYOSHARANI SAMAL	Jyosharani Samal
19	JYOTI PRAKASH BHARATI	Jyoti Prakash Bharati
20	KRISHNA KALYANI KAR	Krishna Kalyani
21	KUMARIKA MISHRA	Kumarika Mishra
22	LIPSA BAL	Lipsa Bal
23	LIPSARANI SATAPATHY	Lipsarani Satapathy
24	MAMALI MOHANTY	Mamali Mohanty
25	MANAS RANJAN SAHOO	Manas Ranjan Sahoo

26	MANISHA PANDA	Manisha Panda
27	MANORANJAN BEHERA	Manoranjan Behera
28	MOHITAKSHA KAR	Mohitaksha Kar
29	MONALISA JENA	Monalisa Jena
30	NIGAMANANDA MISHRA	Nigumananda Mishra
31	NIRNIMESH DALAI	Nirnimesh Dalai
32	NISHIT KUMAR BEBARTA	Nishit Kumar Bebarta
33	NITESH SAHOO	Nitesh Sahoo
34	PRAGNYA PATTNAIK	Pragyanya Pattanaik
35	PRAGYAN PARIMITA DASH	Pragyan Parimita Dash
36	PRANAB PRAJESH ROUT	Pranab Prajesh Rout
37	PRASANT KUMAR SAHU	Prasant Kumar Sahu
38	PRATIK NAYAK	Pratik Nayak
39	PRINAYEE LENKA	Prinayee Lenka
40	RABINDRA SINGH	Rabindra Singh
41	RAJIB LOCHAN KAR	Rajib Lochan Kar
42	ROJALIN MALLIK	Rojalin Mallik
43	RUDRANARAYAN SAHOO	Rudranarayana Sahoo
44	RUTUPURNA DAS	Rutupurna Das
45	SASMITA JENA	Sasmita Jena
46	SATYASHREE DASH	Satyashree Dash
47	SHATABDEE PANDA	Shatabdee Panda
48	SHIVANGI MOHAPATRA	Shivangi Mohapatra
49	SIMRON SALONA DAS	Simron Salona Dash
50	SINDHURAJ BARAL	Sindhuraj Baral
51	SK IMRAN	SK Imran
52	SMITA RANI MANDAL	Smita Rani Mandal
53	SOUMIT MOHARANA	Soumit Moharana
54	SOUMYA DARSHINI PRADHAN	Soumya Pradhan
55	SOUMYA SMRUTI SAHOO	Soumya Smruti Sahoo
56	SOUMYAKANTA SAHOO	Soumyakanta Sahoo
57	SOUMYASHREE RATH	Soumyashree Rath
58	SUBHAKANT KHANDUAL	Subhakant Khandual
59	SUBHASHREE NAYAK	Subhashree Nayak

60	SUBHASHREE SAMANTRAY	Subhashree Samantray
61	SUBHASHREE SUBHADARSINI LENKA	Subhashree Subhadarsini Lenka
62	SUBHASHMITA MISHRA	Subhashmita Mishra
63	SUBHASHMITA ROUT	Subhashmita Rout
64	SUMAN KUMAR SHAW	Suman Kumar Shaw
65	SUMAN PATRA	Suman Patra
66	SUPRA SWAIN	Supra Swain
67	SWADHIN KUMAR MEHER	Swadhin Ku. Meher
68	TAUSHIF ALAM	Taushif Alam

*Prabhat K. Pattnaik*

Prabhat K. Pattnaik  
FDP Coordinator

*Prasanta Ku. Mohanty*

Dr. Prasanta Ku. Mohanty  
Dean Academic