



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in



MatChar 2026: Workshop on Material Characterisation (SEM & XRD)

The one-day workshop *MatChar 2026*, titled “**Material Characterisation using XRD and SEM,**” was successfully organized by the Department of Plastic Technology, HBTU Kanpur, in collaboration with the Advanced Centre for Materials Science (ACMS), IIT Kanpur, on **April 17, 2026**, in offline mode. The event was structured into two sessions, combining theoretical knowledge with practical exposure. A total of 60 undergraduate students from the second, third, and fourth-year B.Tech programs actively participated in the workshop. Overall, the workshop proved to be highly informative and impactful, significantly enhancing students’ conceptual understanding as well as their practical skills in the field of material characterisation.

The first session was held at HBTU Kanpur and featured two invited talks. The first lecture, delivered by **Dr. Priya Singh**, focused on *Scanning Electron Microscopy (SEM)*, while the second lecture by **Dr. Rajnikant** covered *X-Ray Diffraction (XRD)*. During these sessions, the speakers actively engaged with students and explained key concepts, including the differences between optical microscopy and SEM, the fundamentals of Bragg's Law, and the generation of X-rays. The interactive discussions significantly enhanced student engagement and understanding.

The second session of the workshop was conducted at IIT Kanpur, where participants were provided with practical demonstrations of SEM and XRD instruments at ACMS. This hands-on exposure effectively complemented the theoretical concepts covered in the first session, enabling students to gain a deeper understanding by connecting classroom knowledge with real-world applications. The successful execution of this session was made possible under the guidance and support of **Prof. Anish Upadhyaya**, Head of ACMS, IIT Kanpur, whose encouragement and permission facilitated the academic visit and practical training. Certificates were distributed to all the participants. Overall, the workshop proved to be highly informative and impactful, significantly enhancing students’ conceptual understanding as well as their practical skills in the field of material characterisation.



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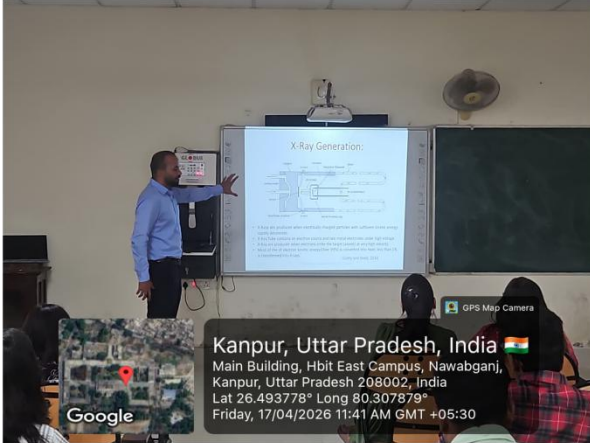
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Session I



Kanpur, Uttar Pradesh, India
Main Building, Hbit East Campus, Nawabganj,
Kanpur, Uttar Pradesh 208002, India
Lat 26.493778° Long 80.307879°
Friday, 17/04/2026 11:41 AM GMT +05:30



Kanpur, Uttar Pradesh, India
Main Building, Hbit East Campus, Nawabganj,
Kanpur, Uttar Pradesh 208002, India
Lat 26.493766° Long 80.307948°
Friday, 17/04/2026 12:17 PM GMT +05:30



Kanpur, Uttar Pradesh, India
Main Building, Hbit East Campus, Nawabganj,
Kanpur, Uttar Pradesh 208002, India
Lat 26.493718° Long 80.307935°
Friday, 17/04/2026 12:15 PM GMT +05:30



Kanpur, Uttar Pradesh, India
Main Building, Hbit East Campus, Nawabganj,
Kanpur, Uttar Pradesh 208002, India
Lat 26.493724° Long 80.307912°
Friday, 17/04/2026 12:15 PM GMT +05:30



Kanpur, Uttar Pradesh, India
Main Building, Hbit East Campus, Nawabganj,
Kanpur, Uttar Pradesh 208002, India
Lat 26.493735° Long 80.307901°
Friday, 17/04/2026 12:19 PM GMT +05:30



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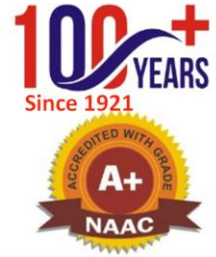
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Session II

MatChar 2026
Workshop on Material Characterisation (SEM & XRD)
 in collaboration with
Advanced Centre for Materials Science (ACMS), IIT Kanpur

