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Registration Seminar

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Seminar Title	: Design, synthesis and photophysical study of aggregation induced emission based donor- $\pi$ -acceptor luminophores and their applications
Speaker	: Manjit Dehury ( Rollno : 523cy6005)
Supervisor	: Sabita Patel
Venue	: Chemistry Seminar Room
Date and Time	: 12 Sep 2025 (04.30 PM)
Abstract	: Pure organic molecules which show aggregation-induced emission (AIE) has attracted great interest due to their emerging applications in organic electronics, solid state lighting, sensing and anticounterfeiting applications. As typical AIE-active functional moieties are tetraphenylethene (TPE), Triphenylethylene (TriPE), Triphenylbenzene etc. has been investigated because of its facile synthesis and easy modification, and at the same time shown wide applications in OLEDs, chemosensors and bio-probes. Organic light-emitting diodes (OLEDs) are the attractive prospect for the development of next generation full color, flat panel displays and lighting technologies, due to their attractive features including wide viewing angle, superior color quality, fascinating flexibility, etc. The development of efficient blue emitters is of great significance in OLED applications as full-color displays and energy-saving lightings. However, the available efficient blue emitters are limited because of their wide bandgap, poor carrier charge balance, and low efficiency in the solid state. Recent OLED material development has focused on the design, synthesis and application of high efficiency and long-life blue emitters. AIE based donor- $\pi$ -acceptor organic luminescent materials have attracted much attention due to their own facile structural modification at the donor, $\pi$ -spacer and acceptor positions to tune the emission characteristics such as emission colour satisfying the color purity, quantum yield, photostability etc. In the present research programme some AIE based donor- $\pi$ -acceptor (D- $\pi$ -A) luminophores will be synthesized. Their photophysical characteristics will be investigated in detail. Application of these luminophores will be investigated with special emphasis to organic electronics and solid state lighting.