

Registration Seminar

Seminar Title	: Design and Development of Artificial Materials for Vibro-Acoustic Applications
Speaker	: Sharat Pandey (Rollno : 522id1001)
Supervisor	: Prof. Dibya Prakash Jena
Venue	: CAD Lab, ID Department
Date and Time	: 14 Nov 2023 (4.30 PM)
Abstract	: This report puts forth the findings from literature review on the topics of metamaterial in the field of air and underwater acoustics and vibration isolation. Based on the review, a number of research gaps have been identified namely lack of designs for broadband sound absorption, anomalies and ambiguities among the methods used for acoustic characterization of porous materials, lack of metamaterial designs for underwater acoustic applications and missing amalgamation of vibro-acoustic properties in a single metamaterial design. Based on the said research gaps few research objectives have been finalised namely, develop metamaterial having acoustic absorption performances on a par with those of melamine foam, rock-wool, glass-wool etc., optimize the designed metamaterials for broadband sound absorption, designing metamaterial for underwater acoustics applications and make efforts to integrate vibro-acoustic absorption qualities in a single design. Few metamaterials have already been designed for air acoustic applications and results are satisfactory but need more work.