Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology
Approved by AICTE New Delhi, Recognized by DTE, Govt. of Maharashtra
And Affiliated to University of Mumbai
NAAC "B++" Grade

REPORT

Topic Name:	REVERSE ENGINEERING
Name of the Guest Speaker:	Mrs. Nidhi Sanghvi
Designation:	MANAGER BUSINESS DEVELOPMENT
Organization/Institution:	ASK ME ENGINEERS
Date:	31/01/2025
Time:	1.30pm-3.30pm
Participant details:	24 Students and 3 Faculties

Objectives:

1. To explain what reverse engineering is and where it is applied across industries.
2. To understand the ethical boundaries and legal considerations involved in reverse engineering practices.
3. Familiarize attendees with tools, software, or methods commonly used in reverse engineering processes.

Outcomes:

1. Clear Understanding of Reverse Engineering: Participants will be able to define reverse engineering and explain its purpose and scope.
2. Awareness of Real-World Applications: Attendees will recognize how reverse engineering is applied in industries such as software, electronics, mechanical design, and cybersecurity.
3. Familiarity with Tools and Techniques: Participants will gain introductory knowledge of tools, methods, and processes used in reverse engineering.

Programme Summary/Details:

Mrs. Nidhi Sanghvi commenced her lecture by introducing Reverse Engineering as a process of analyzing a product or system to understand its design, architecture, code, or functionality, typically to Learn how it works, duplicate it, improve it and to ensure compatibility. It is a process or method through which one attempts to understand through deductive reasoning how a previously made device, process, system, or piece of software accomplishes a task with very little insight into exactly how it does so.

She explained that all reverse engineering processes consist of three basic steps namely, information extraction, modeling, and review. All the relevant information for performing the operation is gathered in the information extraction stage. Modeling is the practice of combining the gathered information into an abstract model, which can be used as a guide for designing the new object or system. Finally the testing of the model to ensure the validity is done in the last stage of review. She also emphasized on the tools of reverse engineering which can be software or hardware components used to analyze and understand the functionality of a system or product without having access to its original design or source code. There are decompilers, debuggers, 3D scanners, multimeters and oscilloscopes, CAD software with reverse engineering capabilities which import 3D scan data and create CAD models from it.

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At the end of the session, the guest speaker encouraged students to actively learn and explore various CAD software, emphasizing that proficiency in these tools can significantly enhance their skills and career prospects across diverse engineering fields such as design, mechanical, aerospace, and computer engineering.