



Course Content:

- **Module 1:**

Variables, Data Types and Script Files

Introduction to MATLAB, Creating Variables, Some Useful MATLAB Functions, Data Types, Script Files

- **Module 2:**

Plotting and Programming Practices

Introduction to Arrays, Graphing Exercises, Graphing Functions Using MATLAB, Programming Practices

- **Module 3:**

Input and Output Statements, Topic

6: Conditional Statements

Input Statements Output Statements Exercises: Input/Output Statements, Conditional Statements: Logical Operators, Conditional Statements: if, else, and elseif, Conditional Structures: Switch Exercises.

- **Module 4:**

Loops and Nested Loops

Nested Loops Breaks, Repetition Structures: Nested Loops and the Break Statement

- **Module 5:**

Arrays and Array Functions

Arrays, Exercises: Arrays, Some Useful Functions for Arrays Exercises: Array Functions

Course Description:

The Workshop aim to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of engineering students.

MATLAB or (Matrix Laboratory) is a high performance fourth generation programming language which is used for technical computing. It provides multi paradigm numerical computing environment and was developed by Math Works. It is used for integrating computation, visualization, and programming so that the programming environment becomes easy to use. The applications of MATLAB are immense. It is a powerful linear algebra tool with a very good collection of toolboxes; therefore it finds applications in research and teaching on domains of robotics and automation.

The Courses focus on skill development and more than 50% of the time is spent on practical training and problem solving, to provide the requisite understanding towards application of academic topics from engineering disciplines into real world engineering projects.

Process of Enrollment and certification:

Fill out the enrolment form and submit it to the course head by downloading it from the university's official website or using the Google form link. Following successful enrollment, participants will attend session 70% attendance is required. At the end of the each module, The participant will be submitting an assignment each and at the end of module. To be eligible for the certificate, the participant must complete at least three out of five assignments and score at least 70% on the evaluation paper. The participant will receive a certificate from ARKA JAIN University in Jharkhand after successfully completing the assignment and evaluation paper.



School of Engineering And IT
Department of Engineering

Workshop On

“Fundamental of MATLAB”

Registration Link:

<https://forms.gle/KeTk5sAyzswDBtbK6>

About the Course:

- **Convener:**

Prof. Ashwini Kumar

- **Coordintaors:**

Dr. Anup Kumar and Dr. Amit Prakash Sen

- **COMMENCEMENT DATE:**

16/08/2022 to 20/08/2022

- **Course Location:**

ARKA JAIN University, Jharkhand and
Online (Google meet)

- **Mode of learning:**

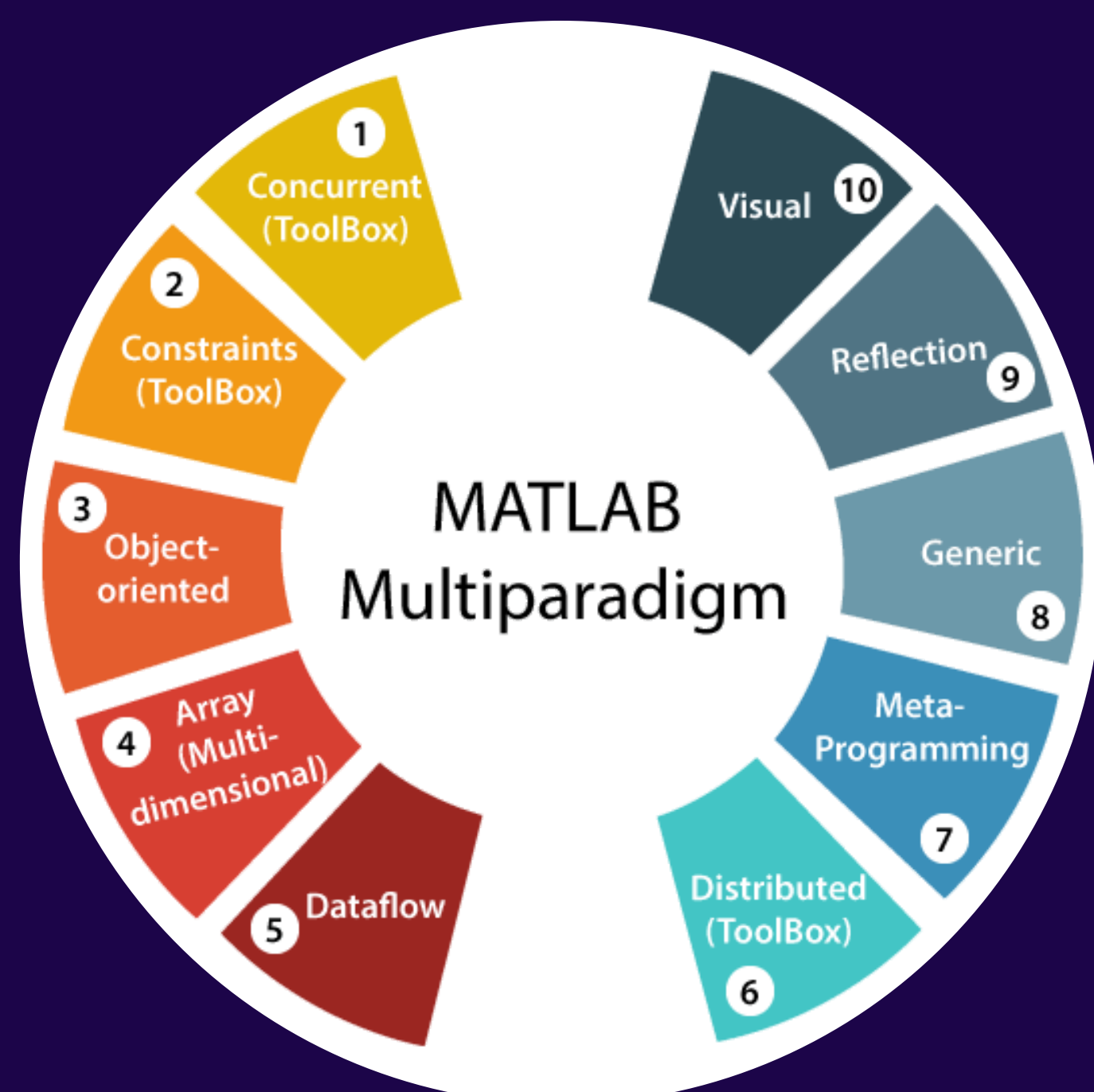
Online

- **Who can Enroll:**

The Engineering and IT students of ARKA JAIN
University, Jharkhand

- **Registration fee:** Nil

- **Max no. of Participants** = 50



Course outcome:

The student will learn about MATLAB and their applications to various requirements. In particular the student will be able to:

1. Understand the basics of MATLAB
2. Break a complex task up into smaller, simpler tasks
3. Case Study (Any two Modules)
4. Tabulate results and Analyze

Program specific outcome:

1. To apply the principles of thermal sciences to design and develop various thermal systems.
2. To apply the principles of manufacturing technology, scientific management towards improvement of quality and optimization of engineering systems in the design, analysis and manufacturability of products.
3. To apply the basic principles of mechanical engineering design for evaluation of performance of various systems relating to transmission of motion and power, conservation of energy and other process equipment.

Program outcome:

1. The graduates will demonstrate the knowledge and skills of mechanical engineering to obtain the solution to the complex design engineering problems.
2. The graduate will apply the mechanical engineering concepts while pursuing academic and research activities.
3. The graduates will showcase the professional skill with keeping societal ethical values.

