



# RENGANAYAGI VARATHARAJ COLLEGE OF ENGINEERING

Salvarpatti, Sattur-Sivakasi Main Road, Sivakasi – 626 005.

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE



ACADEMIC YEAR 2025 – 2026 EVEN SEMESTER

**INNOVATIVE TEACHING METHODS**

**III – YEAR**

**BATCH: 2024-2028**

| S.NO. | YEAR/SEMESTER                 | COURSE CODE & TITLE          | UNIT                      | TOPIC                                       | INNOVATIVE TEACHING METHOD USED |
|-------|-------------------------------|------------------------------|---------------------------|---|---------------------------------|
| 1     | II/IV                         | AL3451 –<br>MACHINE LEARNING | 1                         | Bias variance trade-off                     | Flipped class room              |
|       |                               |                              |                           | Examples of machine Learning Applications   | Mind Mapping                    |
|       |                               |                              | 2                         | Support Vector Machine                      | Flipped class room              |
|       |                               |                              |                           | Probabilistic Generative Model              | Think-Pair-Share                |
|       |                               |                              | 3                         | Model Combination Schemes                   | Flipped Classroom               |
|       |                               |                              |                           | K-Means                                     | Mind Mapping                    |
|       |                               |                              | 4                         | Activation Function                         | Flipped Classroom               |
|       |                               |                              |                           | Multilayer Perception                       | Z-A Approach                    |
|       |                               |                              | 5                         | Guidelines for Machine Learning Experiments | Flipped Classroom               |
|       |                               |                              |                           | Cross Validation (CV) and Resampling        | Student Seminar                 |
| 2     | AL3452 –<br>OPERATING SYSTEMS | 1                            | Operating System Services | Flipped class room                          |                                 |
|       |                               |                              | System Calls              | Z-A Approach                                |                                 |

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|-------|--------------------------------|---------------------|------|--|---------------------------------|----------------------------------|---------------------|
|       |                                |                     | 2    | Inter Process Communication                    | Flipped class room              |                                  |                     |
|       |                                |                     |      | Process Synchronization                        | Think Pair Share                |                                  |                     |
|       |                                |                     | 3    | Allocation Of Frames                           | Flipped class room              |                                  |                     |
|       |                                |                     |      | Virtual Memory                                 | Mind Mapping                    |                                  |                     |
|       |                                |                     | 4    | Free Space Management                          | Flipped class room              |                                  |                     |
|       |                                |                     |      | Mass Storage System                            | Mind Mapping                    |                                  |                     |
|       |                                |                     | 5    | Virtualization and Operating System Components | Flipped class room              |                                  |                     |
|       |                                |                     |      | Virtual Machines                               | Z-A Approach                    |                                  |                     |
|       |                                |                     | 3    | CS3591 –<br>COMPUTER NETWORKS                  | 1                               | OSI Model                        | Z-A Approach        |
|       |                                |                     |      |  |                                 | Introduction to sockets          | Flipped class room  |
|       |                                |                     |      |  | 2                               | Flow Control                     | Flipped class room  |
|       |                                |                     |      |  |                                 | SCTP                             | Reciprocal Teaching |
|       |                                |                     |      |  | 3                               | IPV4(Internet Protocol Version4) | Think Pair Share    |
|       |                                |                     |      |  |                                 | Subnetting                       | Flipped class room  |
| 4     | OSPF(Open Shortest Path First) | Flipped class room  |      |  |                                 |                                  |                     |
|       | BGP(Border Gateway Protocol)   | Seminar             |      |  |                                 |                                  |                     |
| 5     | CSMA/CD                        | Flipped class room  |      |  |                                 |                                  |                     |

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|-------|---------------|--|------|----------------------------------|---------------------------------|
|       |               |  |      | Virtual LAN                      | Mind Mapping                    |
| 4     |               | AD3491 –<br>FUNDAMENTALS OF<br>DATA SCIENCE AND<br>ANALYTICS | 1    | Need for Data Science            | Flipped class room              |
|       |               |  |      | Exploratory Data Analysis        | Flipped class room              |
|       |               |  | 2    | Inter Quartile Range             | Flipped class room              |
|       |               |  |      | Correlation, Scatter Plots       | Mind Mapping                    |
|       |               |  | 3    | Z Test                           | Flipped class room              |
|       |               |  |      | One-Tailed and Two- Tailed Tests | Z-A approach                    |
|       |               |  | 4    | T-Test Procedure                 | Think Pair Share                |
|       |               |  |      | T-test for two related samples   | Z-A approach                    |
|       |               |  | 5    | Multiple Regression              | Z-A approach                    |
|       |               |  |      | Moving Averages                  | Flipped class room              |
| 5     |               | MA3391 –<br>PROBABILITY AND<br>STATISTICS                    | 1    | Probability Distributions        | Flipped Classroom               |
|       |               |  |      | Moments and MGF                  | Mind Mapping                    |
|       |               |  | 2    | Correlation                      | Flipped Classroom               |
|       |               |  |      | Regression Equations             | Think-Pair-Share                |
|       |               |  | 3    | Point Estimation                 | Flipped Classroom               |
|       |               |  |      | Interval Estimation              | Think-Pair-Share                |
|       |               |  | 4    | Tests of Randomness              | Flipped Classroom               |

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|--------------------------|--------------------------|---|------|---|---------------------------------|
| 6                        |                          |   |      | Advantages and Disadvantages of Parametric and Non-Parametric Tests | Think-Pair-Share                |
|                          |                          |   | 5    | Tolerance Limits  | Flipped Classroom               |
|                          |                          |   |      | Types of Control charts   | Mind Mapping                    |
|                          |                          | GE3451 – ENVIRONMENTAL SCIENCE AND SUSTAINABILITY | 1    | Values of Biodiversity  | Flipped class room              |
|                          |                          |   |      | In situ and Ex situ conservation of Biodiversity                    | Think Pair share                |
|                          |                          |   | 2    | Causes, effects and preventive measures of Airpollution             | Flipped Classroom               |
|                          |                          |   |      | OHASMS  | Think Pair Share                |
|                          |                          |   | 3    | Tidal energy conversion   | Flipped Classroom               |
|                          |                          |   |      | Power plants of Geothermal energy                                   | Think Pair Share                |
|                          |                          |   | 4    | Sustainable development goals                                       | Flipped Classroom               |
| Concept of carbon credit | Think Pair Share         |   |      |   |                                 |
| 5                        | Zero waste and R Concept | Flipped Classroom                                 |      |   |                                 |
|                          | Sustainable Habitat      | Think Pair Share                                  |      |   |                                 |

**Prepared By**

**Approved By**  
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