## ACADEMIC LESSON PLAN OF SUMMER 2023

| Discipline: ELECTRICAL ENGG. | Semester:4<sup>TH</sup> (SEC-A) GROUP-1 | Name of the Teaching Faculty: ANANYA SHUBHADARSINEE |
|---|---|---|
| Subject: SIMULATION ON MATLAB | No. of days/per week class allotted: 1p(3hr)/week | Semester From: 14$^{th}$ Feb 2023 to 23$^{rd}$ May 2023<br><br>No. of Weeks: 15 weeks |
| 1$^{st}$ | 1$^{st}$ | **1. Introduction to MATLAB programming:**<br>1.1. Functions and operation using variables and arrays. |
| 2$^{nd}$ | 1$^{st}$ | 1.1.1. To learn algebraic, trigonometric and exponential manipulation. |
| 3$^{rd}$ | 1$^{st}$ | 1.1.2. To learn Arithmetic, Relational and Logic operator. |
| 4$^{th}$ | 1$^{st}$ | 1.3. Vector manipulation: 1.3.1. Use of linspace to create vectors. |
| 5$^{th}$ | 1$^{st}$ | 1.3.2. To create, add and multiply vectors. |
| 6$^{th}$ | 1$^{st}$ | 1.3.3. Use of sin and sqrt functions with vector arguments. |
| 7$^{th}$ | 1st | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots |
| 8$^{th}$ | 1$^{st}$ | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots<br>1.4.2. Label the plot and printing. |
| 9$^{th}$ | 1$^{st}$ | 1.5. Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions. |
| 10$^{th}$ | 1$^{st}$ | **2.Introduction to SIMULINK:**<br> 2.1. Use of Commonly used blocks, Math operation block and Display block from SIMULINK library. |
| 11$^{th}$ | 1$^{st}$ | 2.2. Use of logical and relational operator block.<br>2.3. Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices. |
| 12$^{th}$ | 1$^{st}$ | 2.4. SIMULATION:<br>2.4.1. Verification of Network theorems. |
| 13$^{th}$ | 1$^{st}$ | 2.4.2. Simulation of a half wave uncontrolled rectifier. |
| 14$^{th}$ | 1$^{st}$ | 2.4.3. Simulation of 1-phase full bridge controlled rectifier. |
| 15$^{th}$ (EXTRA CLASSES) | 1$^{st}$ | 2.4.4. Simulation of step-down chopper. |

Signature of Teaching Faculty

# ACADEMIC LESSON PLAN OF SUMMER 2023

| Discipline: ELECTRICAL ENGG. | Semester:4<sup>TH</sup> (SEC-A) GROUP-2 | Name of the Teaching Faculty: ANANYA SHUBHADARSINEE |
|---|---|---|
| Subject:<br><br>SIMULATION ON MATLAB | No. of days/per week class allotted: 1p(3hr)/week | Semester From: 14<sup>th</sup> Feb 2023 to 23<sup>rd</sup> May 2023<br><br>No. of Weeks: 15 weeks |
| 1<sup>st</sup> | 1<sup>st</sup> | **1. Introduction to MATLAB programming:**<br>1.1. Functions and operation using variables and arrays. |
| 2<sup>nd</sup> | 1<sup>st</sup> | 1.1.1. To learn algebraic, trigonometric and exponential manipulation. |
| 3<sup>rd</sup> | 1<sup>st</sup> | 1.1.2. To learn Arithmetic, Relational and Logic operator. |
| 4<sup>th</sup> | 1<sup>st</sup> | 1.3. Vector manipulation: 1.3.1. Use of linspace to create vectors. |
| 5<sup>th</sup> | 1<sup>st</sup> | 1.3.2. To create, add and multiply vectors. |
| 6<sup>th</sup> | 1<sup>st</sup> | 1.3.3. Use of sin and sqrt functions with vector arguments. |
| 7<sup>th</sup> | 1st | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots |
| 8<sup>th</sup> | 1<sup>st</sup> | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots<br>1.4.2. Label the plot and printing. |
| 9<sup>th</sup> | 1<sup>st</sup> | 1.5. Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions. |
| 10<sup>th</sup> | 1<sup>st</sup> | **2.Introduction to SIMULINK:**<br>2.1. Use of Commonly used blocks, Math operation block and Display block from SIMULINK library. |
| 11<sup>th</sup> | 1<sup>st</sup> | 2.2. Use of logical and relational operator block.<br>2.3. Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices. |
| 12<sup>th</sup> | 1<sup>st</sup> | 2.4. SIMULATION:<br>2.4.1. Verification of Network theorems. |
| 13<sup>th</sup> | 1<sup>st</sup> | 2.4.2. Simulation of a half wave uncontrolled rectifier. |
| 14<sup>th</sup> | 1<sup>st</sup> | 2.4.3. Simulation of 1-phase full bridge controlled rectifier. |
| 15<sup>th</sup> (EXTRA CLASSES) | 1<sup>st</sup> | 2.4.4. Simulation of step-down chopper. |

Signature of Teaching Faculty

## ACADEMIC LESSON PLAN OF SUMMER 2023

| Discipline: ELECTRICAL ENGG. | Semester:4<sup>TH</sup> (SEC-B) | Name of the Teaching Faculty: ANANYA SHUBHADARSINEE |
|---|---|---|
| Subject: SIMULATION ON MATLAB | No. of days/per week class allotted: 1p(3hr)/week | Semester From: 14<sup>th</sup> Feb 2023 to 23<sup>rd</sup> May 2023 <br><br> No. of Weeks: 15 weeks |
| 1<sup>st</sup> | 1<sup>st</sup> | **1. Introduction to MATLAB programming:** <br> 1.1. Functions and operation using variables and arrays. |
| 2<sup>nd</sup> | 1<sup>st</sup> | 1.1.1. To learn algebraic, trigonometric and exponential manipulation. |
| 3<sup>rd</sup> | 1<sup>st</sup> | 1.1.2. To learn Arithmetic, Relational and Logic operator. |
| 4<sup>th</sup> | 1<sup>st</sup> | 1.3. Vector manipulation: 1.3.1. Use of linspace to create vectors. |
| 5<sup>th</sup> | 1<sup>st</sup> | 1.3.2. To create, add and multiply vectors. |
| 6<sup>th</sup> | 1<sup>st</sup> | 1.3.3. Use of sin and sqrt functions with vector arguments. |
| 7<sup>th</sup> | 1st | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots |
| 8<sup>th</sup> | 1<sup>st</sup> | 1.4. Plotting: 1.4.1. Two dimensional Plots and sub plots <br> 1.4.2. Label the plot and printing. |
| 9<sup>th</sup> | 1<sup>st</sup> | 1.5. Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions. |
| 10<sup>th</sup> | 1<sup>st</sup> | **2.Introduction to SIMULINK:** <br> 2.1. Use of Commonly used blocks, Math operation block and Display block from SIMULINK library. |
| 11<sup>th</sup> | 1<sup>st</sup> | 2.2. Use of logical and relational operator block. <br> 2.3. Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices. |
| 12<sup>th</sup> | 1<sup>st</sup> | 2.4. SIMULATION: <br> 2.4.1. Verification of Network theorems. |
| 13<sup>th</sup> | 1<sup>st</sup> | 2.4.2. Simulation of a half wave uncontrolled rectifier. |
| 14<sup>th</sup> | 1<sup>st</sup> | 2.4.3. Simulation of 1-phase full bridge controlled rectifier. |
| 15<sup>th</sup> (EXTRA CLASSES) | 1<sup>st</sup> | 2.4.4. Simulation of step-down chopper. |

Signature of Teaching Faculty