**Department of Electrical Engineering**

**BIT Polytechnic, Balasore**

**LESSON PLAN FOR ACADEMIC SESSION - 2023-24**

**LAB MANUAL**

**Simulation practice on MATLAB (Pr.3)**

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| Course code: | Pr.3 | Semester | 4th |
| Total period: | 15 | Examination | 3 hrs |
| Lab period: | 1P/week | Sessional | 25 |
| Maximum marks | 75 | End semester examination: | 50 |

**Faculty Name- Er. Chandrasekhar Panigrahi**

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| Week | Period | Topic |
| 1st | 1st | INTRODUCTION TO MATLAB PROGRAMMING:  Functions and operations using variables and array. |
| 2nd | 2nd | To learn algebraic, trigonometric and exponential manipulation.  To learn arithmetic, Relational and Logic operator |
| 3rd | 3rd | Matrix formation and its manipulation |
| 4th | 4th | Vector manipulation:  Use of linspace to create vectors |
| 5th | 5th | To create, add and multiply vectors |
| 6th | 6th | Use of sin and sqrt functions with vector arguments |
| 7th | 7th | Plotting:  Two dimensional plots and sub plots |
| 8th | 8th | Label the plot and printing |
| 9th | 9th | Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions |
| 10th | 10th | INTRODUCTION TO SIMULINK:  Use of commonly used blocks, Math operaion block and display block from SIMULINK library |
| 11th | 11th | Use of logical and relational operator block |
| 12th | 12th | Use of sim power system block to use Electrical sources,elements and power electronic device |
| 13th | 13th | SIMULATION:  Verification of Network theorem |
| 14th | 14th | Simulation of a half-wave uncontrolled rectifier. |
| 15th | 15th | Simulation of 1-phase full bridge controlled rectifier.  Simulation of step-down chopper. |

Principal HOD, Dept of EE Lect. Dept of EE

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