**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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