

Name of the Staff: Dr.S.Sentamilselvan

Designation: Associate Professor/EEE

Name of the Subject: POWER SYSTEMS – I [MODELLING AND COMPONENTS]

Subject Code: BEEF185T50

Semester: V

Year: Third Year EEE (Regular)

COURSE PLAN

| Topic No | Topic Name | No. of Periods | Proposed Date of Completion |
|--|---|-----------------------|------------------------------------|
| UNIT – I : Transmission and Distribution Systems Basics | | | |
| 1 | Structure of Power System | 2 | 7/13/2021 |
| 2 | Power Grid-Micro Grid | 2 | 7/15/2021 |
| 3 | Generation-Conventional-Non Conventional(Storage devices) | 2 | 7/20/2021 |
| 4 | Single line diagram Short and long lines | 2 | 7/22/2021 |
| 5 | Meshed and Radial System | 2 | 7/27/2021 |
| 6 | Synchronous grid and Asynchronous grid | 2 | 7/29/2021 |
| 7 | AC Power-Reactive power | 2 | 8/3/2021 |
| UNIT – II : POWER SYSTEM COMPONENTS | | | |
| 1 | Travelling-wave Equations | 2 | 8/5/2021 |
| 2 | Voltage profile Transmission lines | 2 | 8/10/2021 |
| 3 | Surge Impedance Loading | 2 | 8/12/2021 |
| 4 | Series and Shunt Compensation of transmission lines | 2 | 8/24/2021 |
| 5 | Three-winding transformers, auto-transformers, Neutral Grounding transformers. Tap-Changing in transformers | 2 | 8/26/2021 |
| 6 | Synchronous machines P and Q curves | 2 | 8/31/2021 |
| 7 | Synchronous Machines steady state, transient and sub-transient equivalent circuits | 2 | 9/2/2021 |
| 8 | Per-unit System | 2 | 9/7/2021 |
| UNIT – III : OVER-VOLTAGES AND INSULATION REQUIREMENTS | | | |
| 1 | Lightning and Switching Surges | 2 | 9/9/2021 |

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| 2 | Protection against Over-voltages | 2 | 9/14/2021 |
| 3 | lighting arresters, surge arresters | 2 | 9/16/2021 |
| 4 | Voltages produced by traveling surges | 2 | 9/21/2021 |
| UNIT – IV : FAULT ANALYSIS AND PROTECTION SYSTEMS | | | |
| 1 | Symmetrical Components | 2 | 9/28/2021 |
| 2 | Sequence networks | 2 | 9/30/2021 |
| 3 | Computation of Fault Currents. Neutral Grounding | 2 | 10/5/2021 |
| 4 | Over-current, directional, distance protection, differential protection | 2 | 10/7/2021 |
| UNIT – V : NUMERICAL PROTECTION | | | |
| 1 | Numerical over current Protection | 2 | 10/19/2021 |
| 2 | Numerical Transformer Differential protection | 2 | 10/21/2021 |
| 3 | Numerical distance protection | 2 | 10/26/2021 |