| LESSON PLAN |
| --- |
| JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA |
| Name of the Faculty: JYOTIRANJAN NAYAK | Academic Year: 2024-2025 |
| Course No.: Th 2 | Course name: **Circuit and Network Theory** |
| Programe: Diploma | Branch: Electrical Engg |
| Year/Sem: 2nd Year / 3rd Sem  | Section: E1 |

| **Week No.**  | **Period** | **Time****(min)** | **Unit/****Chapter** | **Topic to be Covered** | **Teaching Method** |
| --- | --- | --- | --- | --- | --- |
| 1st |  | 55min | 1 | Introduction, magentizing force, mmf, flux and their relation | Black board  |
|  | 55min | 1 | Permeability, reluctance and permeance | Black board  |
|  | 55min | 1 | Solve numerical problem  | Black board  |
|  | 55min | 1 | Analogy between electric and magnetic circuit | Black board  |
|  | 55min | 1 | Series and parallel magnetic circuit B-H curve | Black board  |
| 2nd  |  | 55min | 1 | B-H curve ,Hysteresis loop | Black board  |
|  | 55min | 2 | Self inductance and mutual inductance | Black board  |
|  | 55min | 2 | Conductively coupled circuit and mutual inductance | Black board  |
|  | 55min | 2 | Dot convention, coefficient of coupling  | Black board  |
|  | 55min | 2 | Series and parallel connection of coupled inductors  | Black board  |
| 3rd  |  | 55 min | 2 | Numerical problems solving  | Black board  |
|  | 55 min | 3 | Types of circuit elements  | Black board  |
|  | 55min  | 3 | Mesh analysis  | Black board  |
|  | 55 min | 3 | Problems solving  | Black board  |
|  | 55 min | 3 | Super mesh analysis  | Black board  |
| 4th  |  | 55min | 3 | Node analysis  | Black board  |
|  | 55min | 3 | Super node analysis  | Black board  |
|  | 55 min  | 3 | Source transformation techniques  | Black board  |
|  | 55 min | 3 | Numerical problems solving  | Black board  |
|  | 55 min  | 3 | Numerical problems solving  | Black board  |
| 5th  |  | 55 min | 4 | Star to delta and delta to star transformation  | Black board  |
|  | 55min | 4 | Superposition theorem  | Black board  |
|  | 55min | 4 | Thevenins theorem | Black board  |
|  | 55 min | 4 | Nortons theorem | Black board  |
|  | 55 min | 4 | Maximum power transfer theorem  | Black board  |
| 6th  |  | 55 min | 4 | Numerical problems solving | Black board  |
|  | 55 min | 4 | Numerical problems solving | Black board  |
|  | 55 min | 4 | Numerical problems solving | Black board  |
|  | 55 min | 5 | Ac through RL, RC, RLC circuit  | Projector  |
|  | 55 min | 5 | Ac through RL, RC, RLC circuit  | Projector  |
| 7th  |  | 55 min | 5 | Numerical problems solving | Black board  |
|  | 55 min | 5 | Numerical problems solving | Black board  |
|  | 55 min | 5 | RLC series circuit  | Projector  |
|  | 55 min | 5 | RLC parallel circuit | Projector  |
|  | 55 min | 5 | Power factor, power triangle, active, reactive, apparent power | Black board  |
| 8th  |  | 55 min | 5 | Series resonance, parallel resonance  | Black board  |
|  | 55 min | 5 | Band width, selectivity, Q factor | Black board  |
|  | 55 min | 5 | Numerical problems solving | Black board  |
|  | 55 min | 6 | Poly phase system, phase sequence  | Black board  |
|  | 55 min | 6 | Relation between phase and line quantity in star and delta system | Black board  |
| 9th  |  | 55 min | 6 | Power equation  | Black board  |
|  | 55 min | 6 | Measurement of 3 phase power by 2 watt meter method | Black board  |
|  | 55 min | 6 | Numerical problems solving | Black board  |
|  | 55 min | 7 | Steady state and transient response | Black board  |
|  | 55 min | 7 | Response to RL, RC, RLC circuit to dc condition  | Black board  |
| 10th  |  | 55 min | 7 | Numerical problems solving | Black board  |
|  | 55 min | 7 | Numerical problems solving | Black board  |
|  | 55 min | 8 | Z parameters, Y parameters  | Black board  |
|  | 55 min | 8 | ABCD parameters, h parameters  | Black board  |
|  | 55 min | 8 | Interrelationship of different parameters  | Black board  |
| 11th  |  | 55 min | 8 | T and pie representation  | Black board  |
|  | 55 min | 8 | Numerical problems solving | Black board  |
|  | 55 min | 8 | Numerical problems solving | Black board  |
|  | 55 min | 9 | Definition, classification of filters | Black board  |
|  | 55 min | 9 | Cut off frequency  | Black board  |
| 12th  |  | 55 min | 9 | Constant K low pass, high pass filter | Black board  |
|  | 55 min | 9 | Constant K band pass, band stop filter | Black board  |
|  | 55 min | 9 | Numerical problems solving | Black board  |
|  | 55 min |  | Revision of all topics  | Black board  |
|  | 55 min |  | Revision of all topics | Black board  |

Reference :

1. Circuit & Networks by A.Sudhakar & Shyam Mohan S Palli , TMH Publication.
2. Network Analysis & Synthesis by B.R. Gupta, S.Chand Publication .
3. Electrical Technology – Vol – I by B.L. Thereja , S. Chand Publication.