## DEPT. OF ELECTRICAL ENGINEERING

**DISCIPLINE** : ELECTRICAL ENGG.
**SEMESTER** : **3RD**
**FROM : 01.08.2023** **TO : 30.11.2023**
**NAME OF THE FACULTY** :**MADHUBRATA DASH**
**SUBJECT** : **EEM**
**TOTAL CLASS AVAILABLE IN SEMESTER : 60**
**NO. OF PERIODS** : **04/ WEEK**

| SL. NO. | WEEK | CLASS DATE | NO. OF CLASS / DAY | TOPICS PLANNED TO BE COVERED | SIGN |
|---|---|---|---|---|---|
| 01 | 01 | | | Resistivity, factors affecting resistivity | |
| | | | | Classification of conducting materials into low-resistivity | |
| 02 | 02 | | | Low Resistivity Materials and their Applications<br>1 . 4.2 Silver<br>1 . 4.3 Gold | |
| | | | | 1 Copper 1 | |
| | | | | Aluminum<br>1 . 4.5 Steel | |

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|---|---|---|---|---|---|
| | | | | Stranded conductors | |
| 03 | 03 | | | Bundled conductors | |
| | | | | High Resistivity Materials and their Applications | |
| | | | | Tungsten<br>Platinum | |
| | | | | Superconducting materials | |
| 04 | 04 | | | Application of superconductor materials | |
| | | | | Carbon | |
| | | | | **Semiconducting Materials:**<br>2 . 1 Introduction | |
| 05 | 05 | | | 2 . 2 Semiconductors | |
| | | | | 2 . 3 Electron Energy and Energy Band Theory | |

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|---|---|---|---|---|---|
| | | | | Excitation of Atoms | |
| | | | | Insulators, Semiconductors and Conductors | |
| 06 | 06 | | | 6 Semiconductor Materials | |
| | | | | 7 Covalent Bonds | |
| | | | | Intrinsic Semiconductors | |
| | | | | Extrinsic Semiconductors | |
| 07 | 07 | | | N-Type Materials | |
| | | | | P-Type Materials | |
| | | | | Minority and Majority Carriers | |
| | | | | Semi-Conductor Materials | |

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| 08 | 08 | | | **Insulating Materials:**<br>3 . 1 Introduction | |
| | | | | General properties of Insulating Materials | |
| | | | | 1 Electrical properties | |
| 09 | 09 | | | 2 Visual properties | |
| | | | | Mechanical properties | |
| | | | | Ageing | |
| | | | | – Classification, properties, applications | |
| 10 | 10 | | | 4 Insulating Gases | |
| | | | | Commonly used insulating | |
| | | | | **Dielectric Materials:**<br>Introduction<br>Dielectric Constant of Permittivity<br>Polarisation | |

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|---|---|---|---|---|---|
| | | | | 4.4 Dielectric Loss<br>4. Down 5 Electric Conductivity of Dielectrics and their Break<br>Properties of Dielectrics<br>Applications of Dielectrics | |
| | | | | 4.2 Dielectric Constant of Permittivity | |
| 11 | 11 | | | 4.3 Polarisation | |
| | | | | 4 Dielectric Loss | |
| | | | | Down 5 Electric Conductivity of Dielectrics and their Break | |
| | | | | Properties of Dielectrics | |
| 12 | 12 | | | 7 Applications of Dielectrics | |
| | | | | **5. Magnetic Materials:**<br>Introduction | |
| | | | | 2 Classification | |

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|---|---|---|---|---|---|
| | | | | Diamagnetism | |
| 13 | 13 | | | 5.2.2 Para magnetism | |
| | | | | 3 Ferromagnetism | |
| | | | | Magnetization Curve | |
| 14 | 14 | | | 4 Hysteresis | |
| | | | | 5 Eddy Currents | |
| | | | | 6 Curie Point | |
| | | | | Magneto-striction | |
| 15 | 15 | | | 8 Soft and Hard magnetic Materials | |
| | | | | 1 Soft magnetic materials | |

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|---|---|---|---|---|---|
| | | | | 2 Hard magnetic | |
| | | | | **Materials for Special Purposes**<br>Introduction<br>Structural Materials<br>Protective Materials<br>Lead<br>Steel tapes, wires and strips<br>Other Materials<br>Thermocouple materials<br>Bimetals<br>Soldering Materials<br>Fuse and Fuse materials | |
| | | | | 2 Structural Materials | |
| | | | | 3 Protective Materials | |
| | | | | 2 Steel tapes, wires and strips | |
| | | | | Thermocouple materials | |
| | | | | Fuse and Fuse materials | |