

| APRIL | UNIT-4 | 4. ENERGYMETERS AND MEASUREMENT OF ENERGY | 08 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 4.1 Introduction | 02 |  |
|  |  | 4.2 Single Phase Induction type Energy meters - construction, working principle and their compensation \& adjustments | 06 |  |
|  |  | 4.3 Testing of Energy Meters | 02 |  |
| MAY | UNIT-5 | 5. MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR | 07 |  |
|  |  | 5.1 Tachometers, types and working principles | 02 |  |
|  |  | 5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters | 02 |  |
|  |  | 5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters | 03 |  |
| MAY | UNIT-6 | 6. MEASUREMENT OF RESISTANCE,INDUCTANCE \& CAPACITANCE | 08 |  |
|  |  | Classification of resistance <br> Measurement of low resistance by potentiometer method. . <br> Measurement of medium resistance by wheat Stone bridge method. <br> Measurement of high resistance by loss of charge method | 02 |  |
|  |  | 6.2 Construction, principle of operations of Megger \& Earth tester for insulation resistance and earth resistance measurement respectively | 02 |  |
|  |  | 6.3 Construction and principles of Multimeter. (Analog and Digital) | 02 |  |
|  |  | 6.4 Measurement of inductance <br> by Maxewell's Bridge method | 01 |  |
|  |  | 6.5 Measurement of capacitance by Schering Bridge method | 01 |  |


| $\begin{aligned} & \text { MAY/ } \\ & \text { JUNE } \\ & \hline \end{aligned}$ | UNIT-7 | 7. SENSORS AND TRANSDUCER | 09 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 7.1. Define Transducer, sensing element or detector element and transduction elements | 01 |  |
|  |  | 7.2. Classify transducer. Give examples of various class of transducer | 01 |  |
|  |  | Resistive transducer <br> Linear and angular motion potentiometer. <br> Thermistor and Resistance thermometers. <br> Wire Resistance Strain Gauges | 02 |  |
|  |  | 7.4. Inductive Transducer 7.4.1Principle of linear variable differential Transformer (LVDT) 7.4.2 Uses of LVDT | 01 |  |
|  |  | Capacitive Transducer. General principle of capacitive transducer. Variable area capacitive transducer. <br> Change in distance betweenplate capacitive | 03 |  |
|  |  | 7.6. Piezoelectric Transducer and Hall Effect Transducer with their applications | 01 |  |
| JUNE | UNIT-8 | 8. OSCILLOSCOPE | 05 |  |
|  |  | 8.1. Principle of operation of Cathode Ray Tube | 01 |  |
|  |  | 8.2. Principle of operation of Oscilloscope (with help of block diagram). | 02 |  |
|  |  | 8.3. Measurement of DC Voltage \& current | 01 |  |
|  |  | 8.4. Measurement of AC Voltage, current, phase \& frequency | 01 |  |

