

# ELECTRICAL MEASUREMENT

and

## INSTRUMENTATION

(GOVT. POLYTECHNIC, NABARANGPUR)  
(Question Bank) (4<sup>th</sup> sem. EE)

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### (1) MEASURING INSTRUMENTS :-

- ① why accuracy & precision is require in measuring instruments.
- ② what is sensitivity.
- ③ classify measuring instruments.
- ④ what is deflecting and controlling torque in an measuring instrument.
- ⑤ what is calibration of instruments.

### (2) ANALOG AMMETERS and VOLTMETERS :-

- ① Explain MI type instruments.
- ② Explain PMMC type instruments.
- ③ Explain Dynamometer type instruments.
- ④ How can the range of instruments can be extended?

### (3) WATTMETERS AND MEASUREMENT OF POWER

- ① Explain LPT & UPT type of Dynamometer type wattmeter.
- ② Explain Induction type wattmeter.

### (4) ENERGY METERS AND MEASUREMENT OF ENERGY :-

- ① Discuss construction and working principle of single phase Induction type Energy meters.

### (5) MEASUREMENT OF SPEED, FREQUENCY & POWER FACTOR :-

- ① Explain working principle of Tachometer.
- ② How can we measure power factor. Explain.
- ③ Explain about Electrical Resonance type frequency meters.

### (6) MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE :-

- ① What is wheat stone bridge  
How can we measure Resistance by using it

(2) Explain the usage of Megger & DMM tester.

(3) Explain Digital Multimeter.

(4) How inductance can be measured using Maxwell's bridge method.

(5) How capacitance can be measured using Schering bridge method.

(7) SENSOR & TRANSDUCER :-

(1) what is transducer. Explain its classification & write down its usage.

(2) what is wire resistance strain gauges.

(3) what is LVDT. Explain.

(4) Explain variable area capacitive transducer.

(5) Explain Piezo electric transducer & Hall effect transducer.

(8) OSCILLOSCOPE :-

(1) Explain working principle of CRO. with help of block diagram.

(2) How you can measure AC voltage, current, phase & frequency.