

Registration No.:

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Total Number of Pages: 02

Course: IDD (B.Tech and M.Tech)

Sub_Code: REE4D003/REL4D003

4th Semester Back Examination: 2024-25

SUBJECT: Electrical & Electronics Measurement

BRANCH(S): EEE, ELECTRICAL, EE

Time: 3 Hours

Max Marks: 100

Q.Code: S587

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Answer the following questions: (2 x 10)

- Compare & contrast accuracy with precision.
- Classify standards.
- How earth resistance is measured?
- What is the role of Anderson bridge?
- Define constants in galvanometers.
- What is pH meter?
- What is the utility of a Potential Transformer (PT)?
- Write down the advantages of using Q-meter.
- What is the utility of a CRO?
- Describe frequency measurement using an oscilloscope.

Part-II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- Explain the working of electro-dynamometer type wattmeter.
- What are significant figures in measurement? Explain with suitable examples.
- Describe the method of measuring self inductance by ammeter & voltmeter.
- Explain construction and working of LVDT in detail.
- Describe the construction and operation of ballistic galvanometer.
- Discuss Gall-Tinsley Potentiometer with emphasis on applications.
- Explain True-RMS voltmeter. Why it is required at all?
- Explain the construction, working and applications of amplified DC meter.
- Draw a neat block diagram of CRO. Explain its various parts.
- Compare CRO and DSO. What are the advantages of digital types?
- Distinguish between optical transducer and piezo-electric transducer.
- Explain the Hall Effect Transducer.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

(16 x 2)

- Q3** a) Describe the construction, working principle, and applications of induction type ammeter and voltmeter. (8)
b) Derive the torque equation for a PMMC type instrument and explain its operation. (8)
- Q4** a) Explain the construction and working of strain gage with neat diagrams. (8)
b) With suitable diagram, explain photoelectric tachometer in detail. (8)
- Q5** a) Explain the construction, theory, and working of DC potentiometers. (8)
b) Explain the working of moving magnet and moving coil type galvanometers. (8)
- Q6** a) Describe the theory, construction and testing methods of a Current Transformer (CT) with suitable diagrams. (8)
b) Discuss various Oscilloscope techniques in detail with emphasis to laboratory applications. (8)