

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Monthly Test – 1

Date of Exam.:18.09.2024

1st Semester – 2024(Winter)

TH2 : Applied Physics I (Common)

Full Mark: 20

Time: 1 hour

- 1) Answer any FIVE questions [ 2 × 5 =10 ]
- Define physical quantities and write down its types?
  - Differentiate between fundamental and derived quantities with examples.
  - List out the 7 fundamental quantities with SI units.
  - Determine the dimension of force.
  - State Principle of homogeneity.
  - Explain least count of an instrument and write its formula.
  - Write down the different types of error.
- 2) Answer any TWO questions [ 5 × 2 =10 ]
- Write the rules for finding significant figures with example (at least 6 rules).
  - Write the advantages and disadvantages of Dimensional analysis.
  - Using dimensional analysis show that the formula [  $V = U + at$  ] is valid.
  - Check the correctness of the formula [  $V - U = 2 \times a \times s$  ] where “U”&”V” are initial and final velocities, “a” is acceleration and “s” is displacement.