

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Internal Assessment-1

1st Semester – 2024(W), (Common)

TH2 : Applied Physics I

Full Mark: 20

Time: 1 hour

- 1) Answer any FIVE questions [2 × 5 =10]
- Find the dimension of Power.
 - Write the types of fundamental quantities.
 - Define mechanical energy of a system.
 - Write any four types of vectors.
 - Differentiate between scalar and vector quantity.
 - State and explain Newton's laws of motion.
 - Define work done by a system and mention its types.
- 2) Answer any TWO questions [5 × 2 =10]
- Write down the application and limitations of dimensional analysis.
 - Consider two vectors **A** and **B** such that $\mathbf{A}=ax\mathbf{i} + by\mathbf{j}$ and $\mathbf{B}=cx\mathbf{i} + dy\mathbf{j}$ where **i** and **j** are unit vectors. Find the scalar and vector product of **A** and **B** vectors.
 - Define friction and write its types. Mention few methods to reduce friction.
 - Write down the application of centripetal and centrifugal force on a banked road