

INTERNAL ASSESMENT 2021
KANDI RAJ COLLEGE
DEPARTMENT OF PHYSICS

SEMESTER: 1st
PAPER CODE: PHY-GCC-T-01

STREAM: Program Course (GENERAL)
Paper: Mechanics

(You can write the answer in English or Bengali Language)

Full marks: 10

Answer Any Five questions of the following:

5×2=10

1. Obtain the moment of inertia of a circular disc about its diameter.
 2. Find the work done in moving an object along a vector $\vec{r} = 5\hat{i} + 8\hat{j} - 5\hat{k}$ by the force $\vec{F} = 3\hat{i} - \hat{j} - \hat{k}$.
 3. What are the differences between elastic and inelastic collisions?
 4. What is Central Force? Show that angular momentum remains constant in central force.
 5. What is Forced Vibration? Obtain the differential equation of motion in Forced Vibration.
 6. Write down the postulates of special theory of relativity. What is length contraction?
 7. Obtain the energy momentum relation for a relativistic particle?
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