



# U.G. 1st Semester Examination – 2021

PHYSICS[HGE]

Course Code : PHY-H-GE-01/PR (Mechanics)



Full Marks : 20

Time : 2 Hours

Answer any five questions

(5×4=20)

1. What is least count of a screw gauge? How can the diameter of a wire be measured with it?
2. Describe the construction of a sextant. How can the height of a building be determined with it?
3. What is moment of inertia? Describe an experimental technique to determine the moment of inertia of a flywheel.
4. What is optical lever? How can the Young's modulus of a wire be determined with it?
5. Give a description of Maxwell's needle. How can the modulus of rigidity of a wire be determined with it?
6. Describe an experimental technique to determine the elastic constants of a wire by Searle's method.
7. How can the acceleration due to gravity 'g' be determined with a bar pendulum?
8. Describe the construction of a Kater's pendulum. How can g be determined with it?
9. Describe an experimental technique to calculate the spring constant of a spring by studying its motion.