



Daffodil International University
Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Exam Examination, Fall 2021 @ DIU Blended Learning Center

Course Code: Phy-113 (Day), Course Title: Basic Physics

Level: 1 Term: 1 Section: G,H

Instructor: Debashis Roy Modality: Open Book Exam

Date: Thursday 18 July, 2021 Time: 1.30 pm-4pm

Two and half hours (2:30), Marks: 25

SET A: Answer the following questions

(8×2=16)

1. What do you understand by uniform motion?
2. Explain how acceleration changes with the change of velocity?
3. Define the horizontal range of a body.
4. Describe the meaning of equation $L = I\omega$.
5. Explain the law of conservation of momentum.
6. Write a short note about “Torque”. Define simple harmonic motion.
7. Show that the moment of inertia of a rigid body moving with uniform velocity is equal to its angular momentum.
8. Demonstrate that sound wave is longitudinal wave.

SET B: Answer the following questions

(3×3=9)

9. A bullet after penetrating 30mm of a wall loss half of its speed. How far will the bullet penetrate the wall afterwards?
10. At what velocity and angle of projection a projectile is to be projected to make its horizontal 80 m and the time of flight 5s?
11. If displacement $X = A \sin \omega t$, calculate the velocity and acceleration. Draw the corresponding graph for displacement, velocity and acceleration.

Hope for the Best