



Daffodil International University
Department of Software Engineering
Faculty of Science & Information Technology
Final Assessment, Summer 2021 @ DIU Blended Learning Center
Course Code: PHY101 (Day), Course Title: Physics I
Level & Term: L1T2 Section: A,B
Instructor: SSK

Answer all the questions

Marks: 40

1. (a) Find out the path length for the third nodes and antinodes in a stationary wave. **5+3**
(b) Which principle leads the formation of stationary wave?
2. (a) Which equipments are used in the electrical circuit for getting the proper current flow? Explain their significance briefly. **5+3**
(b) What is the resistivity of a wire of area $16.8 \times 10^{-6} \text{m}^2$, length 5.00m and resistance $5.00 \text{m}\Omega$?
3. (a) Write short notes on the contribution of microwave in communication. **4+4**
(b) Explain the resistivity and conductivity of any material? What is the relation between them?
4. (a) Why the Lissajous figure and spring constant are useful in simple harmonic motion? **5+3**
(b) The electrical flux through a cubical box of length 8cm on a side is $1.2 \times 10^3 \text{Nm}^2/\text{C}$. What is the total charge enclosed by the box?
5. (a) Find out any method to calculate the magnetic field in an electromagnet. **4+4**
(b) What is the contribution of Coulomb's law and Gauss's law in electricity?