

Raghunathpur College

Department of Physics

Internal Examination 2nd Semester (DSC), 2020

Topic: Electricity & Magnetism (BPHSCCRC201)

Date: 25/08/2020 Full mark: 10

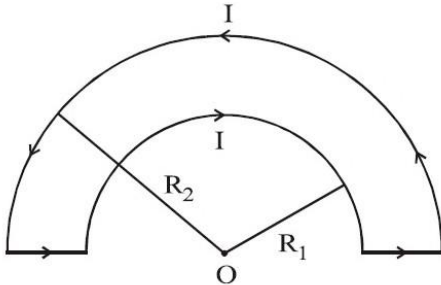
INSTRUCTIONS:

- Write down your name (in capital letter) on top of your answerscript.
- After completion of answerscript convert the photo to PDF format.
- Send it to the WhatsApp no. (9749481630) or email ([prishpaulphysics@gmail.com](mailto:pritishpaulphysics@gmail.com)) before 29th August, 2020.

Answer all questions (5x2=10)

1. In a region, the potential represented by $V(x, y, z) = 6x - 8xy - 8y + 6yz$, where V is in volts and x, y, z are in meters. Find out the value of electric force experienced by a charge of 2 coulomb situated at point (1,0,1).

Calculate the value of magnetic induction \vec{B} at the point O. (2+3)



2. Write down the three Electromagnetic induction laws.

How is Lenz's law related to the conservation of energy? (3+2)