

Raiganj Surendranath Mahavidyalaya

CBCS B.Sc PHYSICS Honours (PRACTICAL Examination)

Semester-II, 2021

DC 3P: Electricity and Magnetism

Full Marks-15

Time- 3.00 Hours

Answer any FIVE questions: (5 × 3)

- 1. On what factors does the self inductance depend ?**
- 2. What is the physical significance of the quality factor (Q) of a capacitor ? How is it defined ?**
- 3. Can you name some applications of resonant circuits? What is the power factor at resonance ?**
- 4. What is a passive and an active circuit element ? Give examples.**
- 5. Define an ideal voltage source and an ideal current source.**
- 6. How can you convert a voltage source in to a current source in practice ?**
- 7. What is the efficiency of the circuit under maximum power transfer condition ? When is the efficiency of the circuit a maximum, i.e. 100% ?**