# Katwa College

## B.Sc. Semester – IV (H) Internal Examination – 2023
## Subject – Physics
## Paper SEC – 2- Electrical Circuits and Network Skills

**Time – 30 min**                                        **Full Marks: 10**

<u>Answer any five questions:</u>                                        2x5=10

1. What do you mean by active and passive circuit elements? Explain with examples.
2. State Kirchhoff's law and explain with simple circuit diagrams.
3. State Thevenin and Norton theorem.
4. Find the equivalent capacitance of series combination of three capacitors.
5. How do you save energy and money by minimizing the abuse of electrical power?
6. What do you mean by blueprint and reading schematics?
7. What do you mean by step up and step down transformers? Explain with simple diagrams.

## Katwa College

### B.Sc. Semester – IV (Honours) Internal Examination – 2022
### Subject – Physics
### Paper SEC – 2- Electrical Circuits and Network Skills

**Time – 1 h**                                                                              **Full Marks: 10**

<u>Answer any five questions:</u>                                                        2x5=10

1. What do you mean by active and passive circuit elements? Explain with examples.
2. State Kirchhoff's law and explain with simple circuit diagrams.
3. State Thevenin and Norton theorem.
4. Find the equivalent capacitance of series combination of three capacitors.
5. How do you save energy and money by minimizing the abuse of electrical power?
6. Draw the following Circuit symbols. a) Controlled voltage source b) controlled current source. c) LDR and d) SPDT toggle switch.
7. What do you mean by blueprint and reading schematics?
8. What do you mean by step up and step down transformers? Explain with simple diagrams.
9. What is an electrical Generator? Explain the working principle of a generator.