



St. Lawrence High School
A Jesuit Christian Minority Institution



Term : Test

Solution of Work Sheet – 3

Subject – Physical Science

Class – X

Date – 21.11.20

Chapter – Current Electricity

Topic – Electromagnetism

Choose the correct option for the following questions.

1 × 15 = 15

1. Generation of electricity was first proposed by scientist –

- a. Oersted
- b. Michael Faraday
- c. Lenz
- d. Coulomb

Ans: b. Michael Faraday

2. According to Faraday's law, a current will be generated –

- a. When a magnetic flux link with a closed coil
- b. When a magnetic flux link with a closed coil increases only
- c. When a magnetic flux link with a closed coil decreases only
- d. When a magnetic flux link with a closed coil changes with time

Ans: d. When a magnetic flux link with a closed coil changes with time

3. The induced emf in a coil is –

- a. Directly proportional to the magnetic field
- b. Directly proportional to the magnetic flux
- c. Directly proportional to the rate of change of magnetic flux
- d. All of the above

Ans: c. Directly proportional to the rate of change of magnetic flux

4. The direction of induced current will be such that –

- a. It will try to oppose the cause of its generation
- b. It will try to help the cause of its generation
- c. It will be always in clockwise direction in any coil
- d. It will be always in anti clockwise direction in any coil

Ans: a. It will try to oppose the cause of its generation

5. An a.c. generator obeys –

- a. Faraday's law
- b. Lenz's law
- c. Bothe the laws
- d. None of these

Ans: Bothe the laws

6. In an a.c. generator, if the current induced in the coil for the first half cycle is anticlockwise, then –

- a. current induced for the next half cycle is also anticlockwise
- b. current induced for the next half cycle is clockwise
- c. current induced for the next half cycle will be zero
- d. None of these

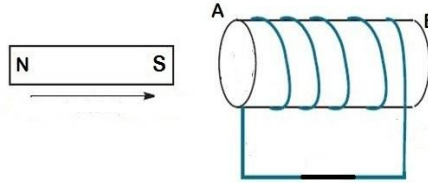
Ans: b. current induced for the next half cycle is clockwise

7. Electric generator –
- Converts electrical energy to mechanical energy
 - Converts mechanical energy to electrical energy
 - Can only generate a.c current
 - None of these

Ans: b. Converts mechanical energy to electrical energy

8. If the south pole of a bar magnet approaches a solenoid as shown in the figure, then the current in the coil near point A will be -

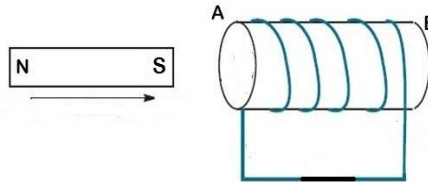
- Clockwise
- Anti Clockwise
- There will be no current
- Cannot be predicted



Ans: a. Clockwise

9. If the south pole of a bar magnet approaches a solenoid as shown in the figure, then which pole will be generated at the farthest end (at point B)?

- N pole
- S pole
- No pole will be generated
- Cannot be predicted



Ans: a. N pole

10. Split ring is used in –

- D.C. motor
- a.c. generator
- D.C. generator
- None of these

Ans: D.C. generator

11. The necessity of split ring is –

- It changes the magnetic flux
- It alternates the direction of current
- It auto cut the circuit such a way that the induced current becomes unidirectional
- None of these

Ans: It auto cut the circuit such a way that the induced current becomes unidirectional

12. In household connection, all the appliances are connected always in –

- Series with the main supply
- Parallel with the main supply
- Mixed combination
- None of these

Ans: Parallel with the main supply

13. If different appliances are connected in series with the main supply, then –

- Potential drop across different appliances will be different
- Independent operation of one specific appliance is not possible
- The effective impedance will be large compared to parallel combination
- All of the above

Ans: d. All of the above

14. In household connection, the switches are always connected with the –

- Live wire
- Neutral wire
- Earth wire
- Can be connected to any wire of the above

Ans: a. Live wire

15. The left pin of a three pin socket is always connected to –

- a. Live wire
- b. Neutral wire
- c. Earth wire
- d. None of these

Ans:b. Neutral wire

Name of the teacher – Soumitra Maity