Cosmo School

Physics | **Worksheet 8 : 27/09/2020** | **Class - X**

CHAPTER 12 : MAGNETIC EFFECTS OF CURRENT

Instructions:

- ✓ Watch the uploaded video class from school's website/YouTube channel.
- ✓ For becoming more clear about the basics, watch more than once, if needed.
- ✓ Contact me in case of any difficulties in understanding.

(Questions given in this worksheet are important questions for all exams)

MCQs

(Solve Yourself)

1. Who invented the magnetic effect of current?

a) Michael Faraday
b) Oersted
c) Simon Ohm
d) Newton

2. Which machine works on the principle of electromagnetic induction?

a) motor
b) generator
c) transformer
d) hair dryer

3. Transformer works following which process?

a) electric induction
b) thermal effect of electricity
c) magnetic effect of current
d) electromagnetic induction

4. What will happen of magnetic field if electric current flows through a solenoid made by insulated wire wound over a cylinder.

a) will be condensed and weak
b) will be condensed and strong
c) will be less condensed and weak
d) will be less condensed and strong

5. In which process, electromotive force is produced?

i. If any magnet is kept motionless in a wire coil
ii. If any wire coil is rotated in a magnetic field
iii. If any magnet is rotated around a motionless wire coil which one is correct?

Which of the following is correct?

a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

6. What type of change of power is marked in transformer?
a) increase
b) decrease
c) remain unchanged
d) decrease abnormally

7. Who invented electromagnetic induction?
a) Oerested
b) Michael Faraday
c) Newton
d) Galileo

8. Michael Faraday published the result of his experiment in -
a) 1821
b) 1831
c) 1841
d) 1851

9. In which of the following electromagnet is used?
a) motor cycle
b) electric bulb
c) electric bell
d) aerplane

10. In an electric motor, how can the intensity of magnetic field be increased?
a) by increasing the number of turns of the coil
b) by decreasing the flow of the current
c) by decreasing the length and breadth of the coil
d) by using the magnet of less power.

11. How can magnetic field be increased?
a) by increasing the current
b) by coiling insulation wire
c) by coiling conductive wire
d) all the above

12. "Magnetic field is associated with current carrying wire" - who invented this?
a) Newton
b) Oersted
c) Faraday
d) Joseph Henry

13. What does the magnetic field of solenoid look like?
a) magnet shape like 'U'
b) bar magnet
c) current carrying straight wire
d) individual magnetic pole

14. In which of the following electric motor is used?
a) door
b) refrigerator
c) television
d) pump

15. What is used in the earpiece of telephone?
a) bar magnet
b) electromagnet
c) iron rod
d) all of them

16. When does the iron rod become a powerful magnet?
a) when the current flows
b) when the current flow is stopped
c) when the flow of current is reduced
d) all of the above

17. What will happen if two poles of the magnet are brought closer?
a) lose magnetism
b) intensity will increase
c) intensity will decrease
d) polarization will decrease

18. If any iron rod is inserted through solenoid, the produced magnetic field is _____ powerful than that of the solenoid.
a) more
b) less
c) equal
d) zero

19. Commutator is made of -
a) copper
b) iron
c) steel
d) brass

20. What is created by using effect of magnet on current carrying wire?
a) motor
b) generator
c) transformer
d) solenoid

21. Which one is not a part of electric motor?
a) magnet
b) armature
c) piston
d) brush

22. The basic principles of which machine are established on the basis of electromagnetic induction?
a) generator
b) motor
c) transistor
d) voltmeter

23. Which one of the following transforms both the voltage and the current?
a) motor
b) transformer
c) armature
d) generator

24. Which machine is made on the basis of electromagnetic induction?
a) motor
b) transistor
c) transformer
d) ammeter

25. In case of transformer the voltage and current is _____ of each other.
a) proportional
b) proportional to square
c) inversely proportional
d) inversely proportional to square

26. Which one is correct in case of step down transformer?
a) $\eta_s > \eta_p$
b) $\eta_s < \eta_p$
c) $\eta_s = \eta_p$
d) all the above

27. Step up transformer is used -
a) in television
b) for transmission of electric power over long distance
c) in VCR, VCP
d) all the above

28. What kind of transformer is used in radio?
a) step up
b) step down
c) both
d) none

29. What is used fro transmission of electric power over long distances?
a) generator
b) motor
c) step-up transformer
d) step-down transformer

30. Where is the step-down transformer is used?
a) walkman
b) for production of current
c) television
d) in low voltage machine

31. A transformer will be step down if -
a) $I_s < I_p$
b) $I_s > I_p$
c) $I_s = I_p$
d) $I_p \geq I_s$

32. In which device electromagnet is used?
a) calculator
b) cell phone
c) thermo flask
d) digital camera

33. No. of turn of primary and secondary coil of a transformer are 36 and 180 respectively. If the flow of current through primary coil is 10A, then what will be the flow through secondary coil?
a) 0.05A
b) 0.02A
c) 0.5A
d) 2A

34. Flow of current through primary and secondary coil is 10A and 2A respectively. If the voltage in primary coil is 200v, then what is the amount of voltage in secondary coil?
a) 40v
b) 100v
c) 400v
d) 1000v

35. Which of the following does use the mutual induction in its mode of function?
a) transistor
b) dynamo
c) amplifier
d) transformer

36. Why there are uses of commutator of electric motor?
a) to keep the coil rotating
b) to decrease the current
c) to increase the current
d) to keep continuous circle

37. The number of turns of primary coil in a transformer is 50, voltage 210v. If the voltage of secondary coil is 420v, what will be the number of turns?
a) 25
b) 100
c) 105
d) 210

38. How many experiments did Faraday make to invent electromagnetic induction?
a) 2
b) 3
c) 4
d) 5

39. Number of turns in the primary and the secondary coil respectively 10 and 75. If the electric current in primary coil is 5A, what is the electric current of secondary coil in ampere?
a) 0.78
b) 0.73
c) 0.69
d) 0.67

40. In a step-up transformer, which one of the following obtain less value in secondary coil than in primary coil?
a) electric power
b) electric potential
c) number of turns
d) flow of current

41. What is called the rectangular coil of wire on the soft sheet of iron in generator?
a) slip ring
b) armature
c) solenoid
d) commutator

42. The lines of force of cylindrical shaped coil is similar to -
a) U shaped magnet
b) ceramic magnet
c) bar magnet
d) horse leg shape magnet

43. Which relation is correct in case of transformer?
a) $E_p n_p = E_s n_s$
b) $E_s I_p = I_p I_s$
c) $I_p n_s = I_s n_p$
d) $E_p n_s = E_s n_p$

44. In an electric motor, how can the intensity of magnetic field be increased?
a) by increasing the number of turn of the coil
b) by decreasing the flow of current
c) by decreasing the length and breadth of the coil
d) by using the magnet of less power

45. Intensity of magnetic field of a solenoid depends on -
i. electric current
ii. the no. of turns of solenoid
iii. the direction of electric current

which of the following is correct?
a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

46. Induced voltage or induced current can be increased in the following way -
i. increasing the number of coil
ii. moving the magnet or the coil slowly towards or away from electric current
iii. decreasing the power of magnet

Which one is correct?
a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

47. In solenoid, for change the direction of electric current in opposite direction -
i. the poles are changed
ii. the direction of lines of forces will be opposite
iii. the iron rod lose its magnetism

Which one is correct?
a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

48. The strength of magnet can be increased -
i. by increasing the flow of current
ii. by increasing the number of coil
iii. by increasing the length and breadth of the coil

Which of the following is correct?
a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

49. What is used in electric motor to keep the coil rotating?
a) transformer
b) armature
c) commutator
d) generator