Question 1

Not yet answered

Marked out of 2.00

v1 (latest)

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Calculate the energy transformed into the heat in resistance of 14 ohm during the time interval 16 s, if the current passing through is 8 A (inscribe in the field the value, e.g. 1.234).

Answer:

Question 2

Not yet answered

Marked out of 2.00

v1 (latest)

Calculate the magnetic flux passing through the loop area of 5 m^2. Magnetic field of 3 T creates the angle of 60^o to the line drawn perpendicular to the face of the loop (inscribe in the field the value, e.g. 1.234).

Answer:

Question 3

Not yet answered

Marked out of 2.00

v1 (latest)

Determine how many times the magnetic field will be increased in the center of a circled wire carrying a current, if the radius of a wire is increased in 6 times, current through the wire is increased in 20 times (inscribe just the number into the data field, e.g. 1.234).

Answer:

Question 4

Not yet answered

Marked out of 2.00

v1 (latest)

Charged particle moves in a magnetic field. The magnitude of magnetic field vector (B) decreases 100 times, and the magnitude of the charge is increased in 6 times. The magnetic (Lorentz's) force exerted on a particle will be increased in ----- times (inscribe just number into the data field, e.g. 1.23).

Answer:

Question 5

Not yet answered

Marked out of 2.00

v1 (latest)

The current density is (dS is the area element):

- a. $j=dI/dS$
- b. $j=SdI$
- c. $j=dS/dI$

Question 6

Not yet answered

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v1 (latest)

The power is equal to ----- (I is a current):

- a. $P=I^2R$
- b. $P=IR$
- c. $P=IR^2$

Question 7

Not yet answered

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v1 (latest)

Magnetic Induction Flux is given by an expression (s is the area, B - magnetic induction):

- a. $\Phi = B*s*\cos\alpha$
- b. $\Phi = B*\cos\alpha$
- c. $\Phi = B*s*\sin\alpha$

Question 8

Not yet answered

Marked out of 2.00

v1 (latest)

The force (Lorentz's Force) acting on a charged particle (q) by means of a magnetic field (B) is given by the formula (v is the velocity):

- a. $F = qB\sin\alpha/v$
- b. $F = qvB\sin\alpha$
- c. $F=vB\sin\alpha/q$

Question 9

Not yet answered

Marked out of 2.00

v1 (latest)

Two parallel wires with the same current (I) exert forces on each other with equal magnitudes. What happens to the magnitude of this force if the value of the current in wires is doubled?

- a. The magnitude is quartered
- b. increased 4 times
- c. The magnitude is halved
- d. The magnitude does not change
- e. The magnitude is doubled

Question 10

Not yet answered

Marked out of 2.00

v1 (latest)

According to Faraday's law of induction $E=-d\Phi/dt$, quantity - Φ is called as:

- a. magnetic flux
- b. electric strength
- c. phase
- d. electric potential

Question 11

Not yet answered

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v1 (latest)

Instantaneous current is defined by the formula (q is the charge):

- a. I=dq*dt
- b. I=dt/dq
- c. I=dq/dt

Question 12

Not yet answered

Marked out of 1.00

v1 (latest)

Which of the following is true about Joule-Lenz law:

- a. determines the amount of heat liberated in a unit volume of resistor per unit time
- b. determines the amount of heat
- c. determines the amount of work

Question 13

Not yet answered

Marked out of 1.00

v1 (latest)

In SI system the unit of the Current is ----- .

- a. Joule
- b. Tesla
- c. Volt
- d. Ampere

Question 14

Not yet answered

Marked out of 1.00

v1 (latest)

Is it true or false: „Kirchhoff's second rule or loop rule is based on the conservation of energy."

- True
- False

Question 15

Not yet answered

Marked out of 1.00

v1 (latest)

Match the physical quantities with corresponding units:

magnetic flux	Choose...
induced e.m.f.	Choose...
magnetic induction	Choose...

Question 16

Not yet answered

Marked out of 1.00

v1 (latest)

Which of the following is true: the magnetic field produced by a current in a long, straight wire ----- .

- a. is directed tangent to field lines circled around the wire
- b. directed radially outward from the wire
- c. is uniform

Question 17

Not yet answered

Marked out of 1.00

v1 (latest)

What is the direction of the force acting on a positively charged particle moving from East to West in a magnetic field directed downward?

- a. directed into the page
- b. directed to the left
- c. directed out of the page
- d. directed to the right

Question 18

Not yet answered

Marked out of 1.00

v1 (latest)

Which of the following is (are) true about Lenz's law:
(i) It obeys Newton's third Law;
(II) It obeys the conservation of energy;
(III) It may be used to find direction of induced current.

- a. (I) and (II) only
- b. (I), (II) and (III)
- c. (I) and (III) ony
- d. (II) ony
- e. (I) only

Question 19

Not yet answered

Marked out of 1.00

v2 (latest)

An electric generator producing an alternating current is based on the phenomenon of ----- .

- a. magnetization
- b. electromagnetic induction
- c. heat exchange

Question 20

Not yet answered

Marked out of 1.00

v1 (latest)

LC circuit contains the ----- .

- a. capacitor only
- b. coil only
- c. capacitor and coil
- d. resistor only