تم تحميل هذا الملف من موقع المناهج الإماراتية

*للحصول على أوراق عمل لجميع الصفوف وجميع المواد اضغط هنا

https://almanahj.com/ae

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر المتقدم اضغط هنا

https://almanahj.com/ae/15

* للحصول على جميع أوراق الصف الثاني عشر المتقدم في مادة فيزياء ولجميع الفصول, اضغط هنا

https://almanahj.com/ae/15physics

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر المتقدم في مادة فيزياء الخاصة بـ الفصل الثالث اضغط هنا

https://almanahj.com/ae/15physics3

* لتحميل كتب جميع المواد في جميع الفصول للـ الصف الثاني عشر المتقدم اضغط هنا

https://almanahj.com/ae/grade15

* لتحميل جميع ملفات المدرس رامي عبد الفتاح اضغط هنا

للتحدث إلى بوت المناهج على تلغرام: اضغط هنا

https://t.me/almanahj_bot

FINAL REVISION FOR ALTERNATIVE CURRENT

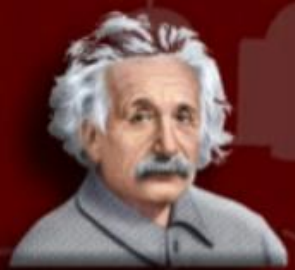
almanahj.com/ae

إعداد الأستاذ/ رامي عبد الفتاح

0507292077

قناة التيليجرام

@einstien_gulf_in_physics



سلسلة أينشتاين الخليج

Practice Zone : Alternating Current

LEVEL – I

1. The frequency for which a 5.0μF capacitor has a reactance of 1000 Ω is given by

(A) 1000/π cycle /sec

(B) 100/π cycle /sec

(C) 200 cycle /s

(D) 5000 cycles /sec

2. In an a.c. circuit V and I are given by V = 50 sin50t volt and I = 100 sin(50t + π/3) mA. The power dissipated in the circuit

(A) 2.5 kW

(B) 1.25 kW

(C) 5.0 kW

(D) 500 watt

3. The average power dissipation in pure inductance in ac circuit, is

(A) 1/2Li2

(B) 2Li2

(C) Li2/4

(D) zero.

4. Circuit as shown in figure below, choose the correct statement.

(A) current in resistance R and current in inductor L will be in 90° phase difference.

(B) potential drop across R and potential drop across L will be in same phase.

(C) current through C and current through L will be in 90° phase difference.

(D) current in R and current in L will be in same phase.

5. In a series L, R, C, circuit which is connected to a.c. source. When resonance is obtained then net impedance Z will be

(A) Z = R

(B) Z = ωL -1/ωC

(C) Z = ωL

(D) Z = 1/ωC

By
Mr.Rami Abdelfattah
0507292077
Telegram :
@einstien_gulf_in_physics

almanahj.com/ae

6. An L,C, R series circuit is connected to a.c. source. At resonance, the applied voltage and the current flowing through the circuit will have a phase difference of

(A) π/4

(B) zero.

(C) π

(D) π/2

7. The reciprocal of impedance is called

(A) reactance.

(B) admittance.

(C) inductance.

(D) conductance.

By

Mr.Rami Abdelfattah

0507292077

Telegram : @einstien_gulf_in_physics

almanahj.com/ae

8. The root-mean-square value of an alternating current of 50 Hz frequency is 10 ampere. The time taken by the alternating current in reaching from zero to maximum value and the peak value of current will be

(A) 2×10-2 sec and 14.14 amp.

(B) 1 ×10-2 sec and 7.07 amp.

(C) 5 ×10-3 sec and 7.07 amp.

(D) 5×10-3 sec and 14.14 amp.

9. A coil of resistance 200Ω and self-inductance 1.0 Henry has been connected to an a.c. source of frequency 2000/2π Hz. The phase difference between voltage and current is

(A) 30°

(B) 60°

(C) 45°

(D) 75°

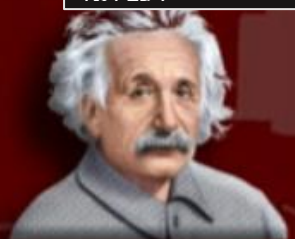
10. In a series resonant circuit, the a.c. voltage across resistance R, inductance L and capacitance C are 5V, 10V and 10V, respectively. The a.c. voltage applied to the circuit will be

(A) 20V

(B) 10V

(C) 5V

(D) 25V



11. In the given figure, which voltmeter will read zero voltage at resonant frequency ω rad/sec ?

Mr.Rami Abdelfattah

0507292077

Telegram : @einstien_gulf_in_physics

(A) V1

(B) V2

(C) V3

(D) V4

12. A resistance R Ω is connected in series with capacitance C Farad value of impedance of the circuit is 10 Ω and R = 6Ω so, find the power factor of circuit.

(A) 0.4

(B) 0.6

(C) 0.67

(D) 0.9

13. In a R, L, C circuit, three elements is connected in series by an a.c. source. If frequency is less than resonating frequency then net impedance of the circuit will be

(A) capacitive

(B) inductive

(C) capacitive or inductive.

(D) pure resistive.

14. Using an A.C. voltmeter, the potential difference in the electrical line in a house is read to be 234 volts. If the line frequency is known to be 50 cycles per second, the equation for the line voltage is

(A) V = 165 sin(100πt)

(B) V = 331 sin(100πt)

(C) V = 234 sin(100πt)

(D) V = 440 sin(100πt)

15. In an a.c. circuit, containing an inductance and a capacitor in series, the current is found to be maximum when the value of inductance is 0.5henry and of capacitance is 8μF. The angular frequency of the input A.C. Voltage must be equal to

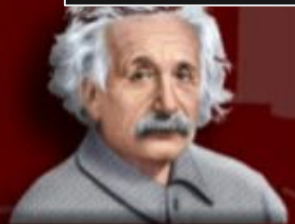
(A) 500

(B) 5×104

(C) 4000

(D) 5000

almanahj.com/ae



16. An alternating voltage E (in volts) = 200√2 sin (100t) is connected to a 1 μF capacitor through an a.c. ammeter. The reading of the ammeter shall be

(A) 10mA

(B) 20mA

(C) 40mA

(D) 80mA

17. In a series R, L, C circuit XL = 10Ω , XC = 4Ω and R = 6Ω. Find the power factor of the circuit.

(A) 1/√2

(B) √3/2

(C) 1/2

(D) none of the these.

18. In LCR circuit the capacitance is changed from C to 4C. For the same resonant frequency, the inductance should be changed from L to

(A) 2L

(B) L/2

(C) L/4

(D) 4L

19. A resistance (R) = 12Ω; inductance (L) = 2 henry and capacitive reactance C = 5 mF are connected in series to an ac generator

(A) at resonance, the circuit impedance is zero.

(B) at resonance, the circuit impedance is 12Ω.

(C) the resonance frequency of the circuit is 1/2π.

(D) at resonance, the inductive reactance is less than the capacitive reactance.

20. In an A.C. circuit, the current is I = 5 sin(100 – π/2) amp and the A.C. potential is V = 200 sin(100t) volt. Then the power consumption is

(A) 20 watts

(B) 40 watts

(C) 1000Watts

(D) 0 watts

Mr.Rami Abdelfattah

0507292077

Telegram : @einstien_gulf_in_physics

almanahj.com/ae

ANSWER:

1. (B)
2. (B)
3. (D)
4. (A)
5. (A)
6. (B)
7. (D)
8. (D)
9. (C)
10. (C)
11. (D)
12. (B)
13. (A)
14. (B)
15. (A)
16. (B)
17. (A)
18. (C)
19. (B)
20. (D)

By

Mr. Rami Abdelfattah

0507292077

Telegram : @einstien_gulf_in_physics

almanahj.com/ae

سلسلة أينشتاين الخليج