النموذج الامتحاني

تم تحميل هذا الملف من موقع المناهج الإماراتية
موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الثاني عشر المتقدم ⇦ فيزياء ⇦ الفصل الثالث ⇦ ملفات متنوعة ⇦ الملف
تاريخ إضافة الملف على موقع المناهج: 17-06-2026 15:19:54
المزيد من مادة فيزياء: ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس
إعداد: Khresani Mohammed

التواصل الاجتماعي بحسب الصف الثاني عشر المتقدم					
صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف الثاني عشر المتقدم والمادة فيزياء في الفصل الثالث	
1	End of Term 3 Revision Physics
2	مراجعة هيكل الامتحان 2026م
3	مراجعة هيكل الامتحان كراسة تدريبية
4	انسباير حلول مراجعة فرق الجهد والتيار الكهربائي وخصائص الدوائر
5	انسباير حلول تجميعة هيكل الفيزياء

وزارة التربية والتعليم
MINISTRY OF EDUCATION

النموذج الامتحاني

الفيزياء الصف الثاني عشر متقدم

Third Term of 2025- 2026

اِحجِزْ مَكانَكَ وَاستَعِدَّ لِلْامتِحَانِ بِثِقَةٍ كَامِلَةٍ

احصل على الشرح الكامل للصف من خلال:

التواصل والحجز عبر الـ Whatsapp
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اضغط على الاسم لتحصل على مزيد من الملفات في تلغرام: MR.MOHAMAD

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Mohammed Khresani

يمكنكم الحصول على

- شرح الهيكل كامل
- جلسة امتحانية مع ملاحظات هامة
- شرح وحل امتحان سابق
- ملازم محلولة
- ملف يحتوي على أهم الأسئلة المتوقعة
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بـ 199 درهم فقط

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almanahj.com/ae 2026 2025 موقع المناهج الإماراتية

1. According to Planck's hypothesis, the energy of a vibrating atom can only exist in bundles of specific amounts. This means that energy is:

A. Continuous
B. Infinite
C. Quantized
D. Zero

2. What is a photon's energy if the photon's wavelength is 515nm?

A. 3.85×10^{-19} eV.
B. 2.41 eV.
C. 5 eV.
D. 3.85 eV.

3. In the right diagram, visible light does not produce current because:

A. The photocell is damaged
B. The battery is disconnected
C. The light frequency is too low
D. The anode blocks the light

4. What is the threshold frequency in the photoelectric effect?

A. The maximum frequency of light.
B. The minimum frequency needed to eject electrons.
C. The intensity of radiation.
D. The speed of electrons.

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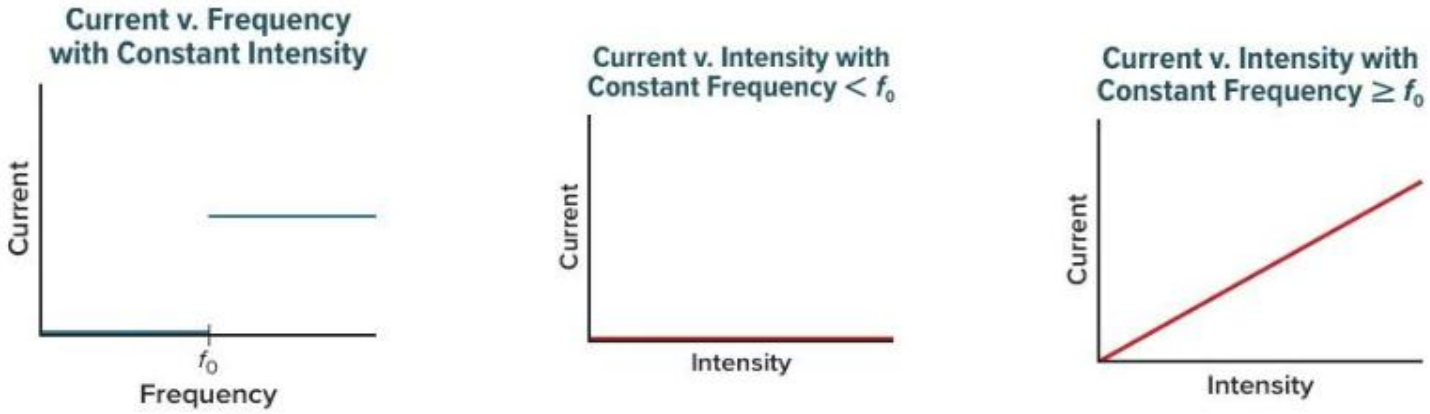
5. The work function for cesium is 1.96 eV. If violet light (2.92 eV) falls on it, what is the maximum kinetic energy of the ejected photoelectrons?

A. 1.96 eV
B. 4.88 eV
C. 2.92 eV
D. 0.96 eV

6. In a photoelectric experiment, if you keep the frequency constant (above f_0) but double the intensity of the light, which of the following will occur?

A. The KE_{max} of the photoelectrons will double.
B. The number of emitted electrons (current) will increase.
C. The threshold frequency will decrease.
D. The stopping potential will increase.

7. The center graph demonstrates that:



A. Intensity alone cannot eject electrons if frequency is too low
B. High intensity always causes electron emission
C. Frequency does not matter
D. Current decreases with intensity

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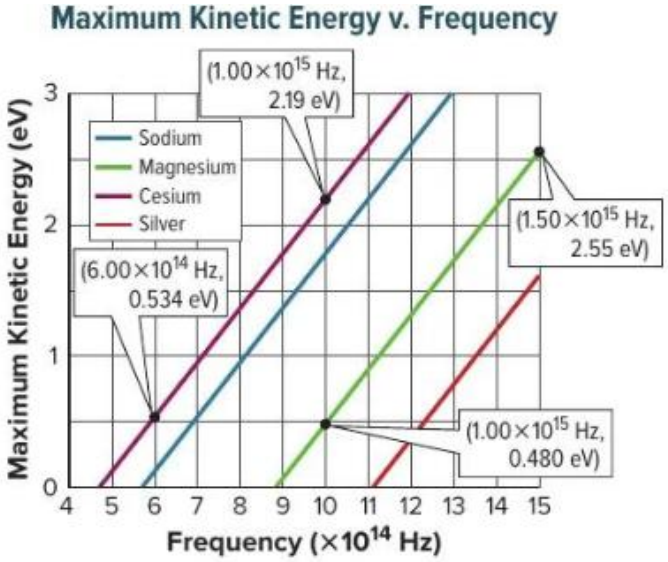
8. In the graph of maximum kinetic energy vs. frequency, the x-intercept represents:

A. Planck's constant
B. Work function
C. Threshold frequency
D. Intensity of light



9. What is the de Broglie wavelength and speed of an electron accelerated by a potential difference of 250 V?

A. $5.1 \times 10^6 m/s$; $1.4 \times 10^{-10}\ m$
B. $9.4 \times 10^6\ m/s$; $7.7 \times 10^{-11}\ m$
C. $3.0 \times 10^6\ m/s$; $2.4 \times 10^{-10}\ m$
D. $1.8 \times 10^3\ m/s$; $4.0 \times 10^{-7}\ m$

10. What potential difference (voltage) is needed to accelerate an electron so it has a 0.125-nm wavelength?

A. $75\ V$
B. $96.5\ V$
C. $125\ V$
D. $250\ V$

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11. Why do physicists use shorter-wavelength radiation when they want to minimize the uncertainty in a particle's location?

A. It decreases diffraction, making the position easier to locate exactly.
B. It decreases the energy transferred to the particle during collision.
C. It increases the wavelength of the reflected photon.
D. It completely eliminates the wavelike properties of the particle.

12. According to the Heisenberg uncertainty principle, what happens if the measurement of a particle's position is made more precise?

A. The uncertainty in its momentum decreases.
B. The uncertainty in its momentum increases.
C. The momentum becomes exactly zero.
D. The particle's velocity becomes constant.

13. What was the major conclusion of Rutherford's alpha-scattering experiment regarding the structure of the atom?

A. Positive charge is spread evenly like "raisins in a muffin."
B. All of an atom's positive charge and most of its mass are concentrated in a tiny nucleus.
C. Electrons are located at the very center of the atom.
D. Atoms are solid, indivisible spheres.

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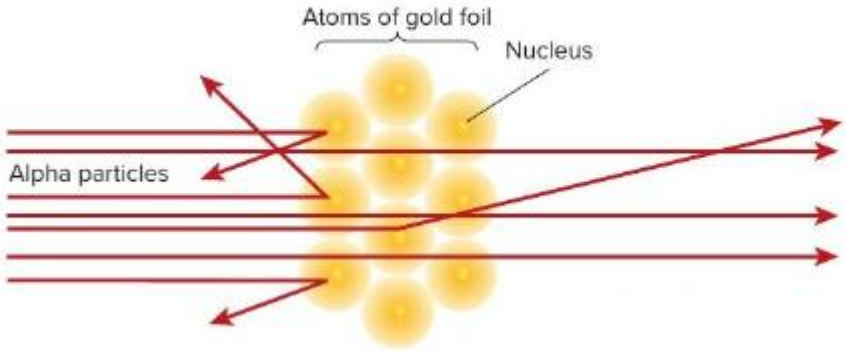
14. Looking at Figure, what does the fact that "most of the alpha particles passed through the foil without deflection" indicate about the atom?

A. The atom is composed mostly of empty space.
B. The atom is a solid sphere of positive charge.
C. The electrons are the most massive part of the atom.
D. The nucleus is much larger than the overall atom.



15. How do the emission spectra of incandescent solids and atomic gases differ?

A. Solids produce discrete lines, while gases produce continuous bands.
B. Solids produce a continuous band of colors, while gases produce a set of discrete lines.
C. They both produce identical patterns of light.
D. Solids do not produce any spectra, only gases do.

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16. In industrial settings, like steel mills, why is spectroscopy considered an effective tool for analyzing materials?

A. It can only identify the weight of the material.
B. It requires a very large sample of the metal to work.
C. The exact composition of a sample can be determined in minutes through spectral analysis.
D. It converts the metal into a gaseous state permanently.

17. How do the dark lines in an element's absorption spectrum relate to the bright lines in its emission spectrum?

A. hey appear at completely different wavelengths.
B. The dark lines are always twice as wide as the bright lines.
C. The dark lines occur at the exact same wavelengths as the bright lines.
D. There is no relationship between the two types of spectra.

18. A mercury atom drops from an energy state of 8.82 eV to a state of 6.67 eV. What is the energy of the emitted photon?

A. 15.49 eV
B. 2.15 eV
C. 1.32 eV
D. 0.75 eV

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19. Which equation correctly represents the relationship between the energy of an emitted photon and the change in the atom's energy levels?

A. $E_{photon} = E_f - E_i$
B. $E_{photon} = E_i - E_f$
C. $E_{photon} = E_i + E_f$
D. $E_{photon} = \frac{h}{\lambda}$

20. According to the laws of classical electromagnetism, why was Rutherford's planetary model considered unstable?

A. The positive nucleus would eventually push the electrons away.
B. Accelerating electrons should radiate energy and spiral into the nucleus within a fraction of a second.
C. The electrons would collide with each other and fly out of the atom.
D. The nucleus would grow too large and explode.

21. what are the two main problems with the planetary model?

A. It cannot explain mass or charge.
B. It predicts that atoms are unstable and should radiate at all wavelengths.
C. it assumes electrons have no mass and the nucleus is neutral.
D. It contradicts the existence of neutrons and protons.

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22. If the innermost orbital radius (r_1) of the hydrogen atom is 0.053 nm, what is the radius associated with the fourth energy level ($n = 4$)?

A. 0.106 nm
B. 0.212 nm
C. 0.477 nm
D. 0.848 nm

23. Calculate the energy difference (ΔE) for a hydrogen atom when an electron transitions from the $n = 2$ level to the $n = 3$ level.

A. 10.2 eV
B. 1.89 eV
C. 0.66 eV
D. 12.1 eV

24. The only spectral lines of hydrogen that are visible to the human eye belong to the Balmer series. These lines occur when electrons transition to which energy level?

A. $n = 1$
B. $n = 2$
C. $n = 3$
D. $n = \infty$

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25. Match the series correctly with its destination level and region:

A. Lyman: $n = 2$, Visible
B. Paschen: $n = 1$, UV
C. Balmer: $n = 2$, Visible
D. Lyman: $n = 3$, Infrared

26. The ground state of a helium ion is -54.4 eV. A transition to the ground state emits a 304-nm photon. What was the energy of the excited state?

A. -4.08 eV
B. -50.3 eV
C. -54.4 eV
D. -58.5 eV

27. According to the combination of Bohr's and de Broglie's theories, what is the required condition for an electron's orbit to be stable?

A. The orbit's radius must be equal to the wavelength.
B. The circumference of the orbit must be a whole-number multiple of the de Broglie wavelength.
C. The velocity of the electron must be equal to the speed of light.
D. The energy of the electron must be zero.

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28. How did de Broglie explain Bohr's assumption that only certain energy levels (orbits) are allowed in an atom?

A. By proving that electrons have no mass.
B. By showing that only orbits where waves are in phase and "in step" can exist without being destroyed by interference.
C. By measuring the exact position of the electron.
D. By proving that the nucleus is neutral.

29. The total number of nucleons (protons plus neutrons) in an atom is defined as the:

A. Mass number (A)
B. Atomic number (Z)
C. Neutron number (N)
D. Elementary charge (e)

30. An atom of Uranium-235 is represented as $^{235}_{92}U$. How many neutrons are in the nucleus of this isotope?

A. 92
B. 235
C. 143
D. 327

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31. What is the main difference between the three isotopes of hydrogen?

A. They have different numbers of protons.
B. They have different numbers of neutrons.
C. They have different numbers of electrons.
D. They belong to different chemical elements.

32. How does the strength and range of the strong nuclear force compare to the electromagnetic force?

A. It is weaker but has an infinite range.
B. It is 10 times stronger and acts over the entire atom.
C. It is more than 100 times stronger but only acts over a very short distance $(1.4 \times 10^{-15}\ m)$.
D. It is exactly equal to the electromagnetic force but acts in the opposite direction.

33. A nitrogen isotope ($^{15}_{7}N$) has a mass of 15.010109 u. What is its binding energy?
$(1p + 1e)$ = 1.007825 u
neutron = 1.008665 u
Use 1 u =931.49 MeV

A. 92.16 MeV
B. 105.44 MeV
C. 106.18 MeV
D. 127.62 MeV

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34. Match the radiation type with its correct electric charge:

A. Alpha: -1 , Beta: $+2$, Gamma: 0
B. Alpha: $+2$, Beta: -1 , Gamma: 0
C. Alpha: 0 , Beta: $+1$, Gamma: -2
D. Alpha: $+1$, Beta: 0 , Gamma: $+2$

35. During beta-minus ($\beta -$) decay, what occurs inside the nucleus to produce the emitted electron?

A. *A proton changes into a neutron.*
B. *A neutron changes into a proton.*
C. *The nucleus splits into two equal parts.*
D. *A photon is converted into mass.*

36. Which radiation type is correctly identified with its physical nature?

A. Alpha particle: Helium nucleus ($^{4}_{2}H$)
B. Beta particle: High-energy photon
C. Gamma ray: Fast-moving positron
D. Alpha particle: Lone electron

37. Consider the reaction: $^{234}_{92}U \rightarrow {}^{230}_{90}Th + X$. To conserve both mass number and charge, what must particle X be?

A. An alpha particle ($^{4}_{2}H$)
B. A beta particle ($^{0}_{-1}C$)
C. A proton ($^{1}_{1}H$)
D. A neutron ($^{1}_{0}n$)

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38. When Nitrogen-14 ($^{14}_{7}N$) is bombarded with alpha particles ($^{4}_{2}He$), a proton ($^{1}_{1}H$) is emitted along with a new isotope: $^{4}_{2}He + {}^{14}_{7}N \rightarrow {}^{1}_{1}H + {}^{A}_{Z}X$
What are the values of (A) and (Z) for the new isotope?

A. $A = 18, Z = 9$
B. $A = 17, Z = 8$
C. $A = 17, Z = 9$
D. $A = 18, Z = 8$

39. A sample of polonium-210 has an initial activity of 2×10^6 Bq. If the sample is kept for a duration equal to two half-lives, what will its activity be?

A. $1 \times 10^6 Bq$
B. $5 \times 10^5 Bq$
C. $2.5 \times 10^5 Bq$
D. $4 \times 10^6 Bq$

40. In a nuclear reactor, what is the specific purpose of Cadmium control rods, as shown in the diagram on page 122?

A. To slow down fast neutrons.
B. To act as the primary fuel source.
C. To absorb neutrons and control the rate of the chain reaction.
D. To reflect neutrons back into the core.

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41. Nuclear fusion is the process in which:

A. A large nucleus splits into smaller parts.
B. Nuclei with small masses combine to form a nucleus with a larger mass.
C. Protons are converted into electrons.
D. An atom loses all of its orbital electrons.

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ملحق الإجابات

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

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21. B
22. D
23. B
24. B
25. C
26. B
27. B
28. B
29. A
30. C
31. B
32. C
33. C
34. B
35. B
36. A
37. A
38. B
39. B
40. C
41. B

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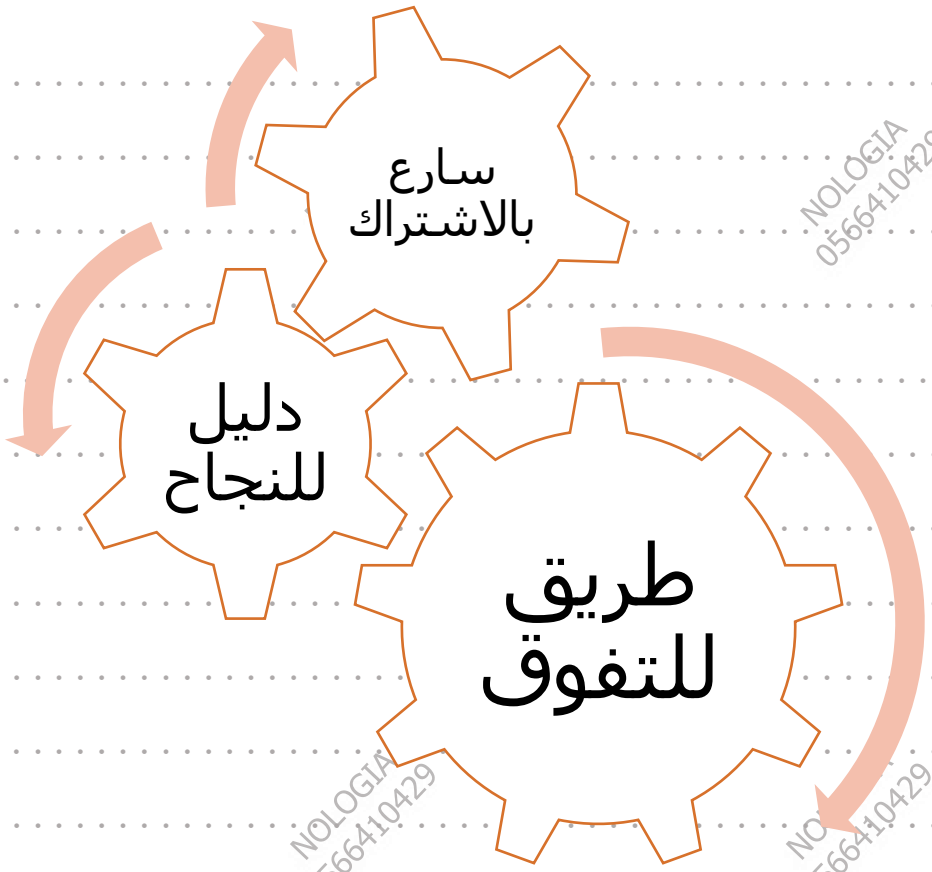

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