

امتحان تجريبي شهادة إتمام الدراسة الثانوية العامة

المادة : الكيمياء

التاريخ : / / ٢٠١

زمن الإجابة : ثلاث ساعات

نموذج ثانوية عامة



عدد أوراق الإجابة (١٣) ورقة
بخلاف الغلاف
وعلى الطالب مسؤولية المراجعة
وتأكد من ذلك قبل تسليم الكراسة

مجموع الدرجات

[illegible]

رقم المراقبة

مجموع الدرجات بالحروف :

إمضاءات المراجعين :

عدد أوراق الإجابة (١٣) ورقة
بخلاف الغلاف
وعلى الطالب مسؤولية المراجعة
والتأكد من ذلك قبل تسليم الكراسة

وزارة التربية والتعليم

امتحان تجريبي شهادة إتمام الدراسة الثانوية العامة

المادة : الكيمياء

التاريخ : / / ٢٠١٩

زمن الإجابة : ثلاث ساعات

رقم المراقبة

--

نموذج ثانوية عامة

اسم الطالب (ربيعاً) /

المدرسة:

رقم الجلوس:

الإشارة :

الحفاظة :

-1-

-2-

توقيع الملاحظين بصحة البيانات :
ومطابقة عدد أوراق كراسة الإجابة
عند استلامها من الطالب .

تعليمات هامة:

عزيزى الطالب:

1. اقرأ السؤال بعناية، وفكر فيه جيداً قبل البدء فى إجابته.
2. أجب عن جميع الأسئلة ولا تترك أى سؤال دون إجابة.
3. عند إجابتك للأسئلة للمقالية، أجب فيما لايزيد عن المساحة المحددة لكل سؤال.

مثال :

.....
.....
.....

4. عند إجابتك عن أسئلة الاختيار من متعدد إن وجدت:
ظلل الدائرة ذات الرمز الدال على الإجابة الصحيحة تظليلاً كاملاً لكل سؤال .

مثال : الإجابة الصحيحة (ج) مثلاً

<input type="radio"/>	أ
<input type="radio"/>	ب
<input checked="" type="radio"/>	ج
<input type="radio"/>	د

- في حالة ما إذا أجبت إجابة خطأ، ثم قمت بالشطب وأجبت إجابة صحيحة تحسب الإجابة صحيحة.
- وفي حالة ما إذا أجبت إجابة صحيحة، ثم قمت بالشطب وأجبت إجابة خطأ تحسب الإجابة خطأ.
- في حالة التظليل علي أكثر من رمز، تعتبر الإجابة خطأ.

ملحوظة: لا تكرر الإجابة عن الأسئلة الموضوعية (الاختيار من متعدد) ،

فلن تقدر إلا الإجابة الأولى فقط .

5. عدد أسئلة الكتيب (60) سؤالاً .
6. عدد صفحات الكتيب (28) صفحة خلاف الغلاف.
7. تأكد من ترقيم الأسئلة تصاعدياً، ومن عدد صفحات كتيبك، فهي مسئوليتك.
8. زمن الاختبار (3) ساعات .
9. الدرجة الكلية للاختبار (60) درجة .

Answer the Following Questions:

Questions (1: 2) :Choose the correct answer

1.

The number of sigma bonds in an alkane having 4 carbon atoms is

- a- 4 b- 8 c- 10 d- 13

2.

Saturated cyclic hydrocarbons which composed of three carbon atoms or more are called

- a- alkanes b- cycloalkanes c- alkynes d- aromatic compounds.

Questions (3: 4) :Write the scientific concept for each of the following

3.

.group of elements its electronic configuration ends with $ns^2 (n-1)d^{1-10}$

.....

4.

substance with known conc. And volume Used in measuring substance of unknown conc.

.....

5.

Calculate

The K_{sp} for CaF_2 is 3.9×10^{-11} . What is the solubility of CaF_2 in water in grams per liter?.

[Ca=40, F=19.05]

.....

.....

.....

Questions (6: 8) :Show by equation

6.

Conversion of acetylene to methane

.....

.....

.....

7.

Obtaining ortho, para nitro chloro benzene from benzene

.....

.....

.....

8.

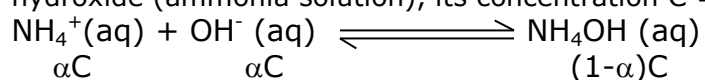
Formation of dihydric alcohol from monohydric one.

.....

.....

.....

The following, equation indicates the ionization of a weak base, ammonium hydroxide (ammonia solution), its concentration $C = 0.1 \text{ M}$.



α is the degree of ionization of the base

If the ionization constant of the base, $K_b = 1.6 \times 10^{-5}$,

calculate:

9. a- the degree of ionization of the base.

.....

.....

.....

10. b- The hydroxyl ion concentration in the alkaline solution.

.....

.....

.....

11. c- The POH value of the solution

.....

.....

.....

12. d- The pH value of the solution

.....

.....

.....

Organic compounds play an important role in our daily life.
Mention the economic importance of each of the following:

13. 1- Aspirin

.....

.....

.....

14. 2- Dacron fibers

.....

.....

.....

15. Salicylic acid

.....

.....

.....

The electrolysis process of sodium chloride solution was carried-out by passing an electric current, its intensity is 2 amperes, for half hour.

16.

Calculate the volume of chlorine gas evolved $Cl=35.5$

.....

.....

.....

17.

b- If 20 ml of 0.2 M HCl solution is required to neutralize 10 ml of the solution after electrolysis process. What is the mass of sodium hydroxide produced if the volume of the solution is 1/2 liter

.....

.....

.....

18.

In which case we can use redox reaction to produce electric current.

.....

.....

.....

19.

What are the components of the galvanic cell. What are the role of each component in the reactions taking place in the cell?.

.....

.....

.....

20.

- Write the expression of the cell in your answer paper then answer the following: $M|M^{2+}||2H^+|H_2$, pt (where M is the metal).

a- what are the indications of the cell expression?

.....

.....

.....

21.

b- What is the oxidizing agent and what is the reducing agent?

.....

.....

.....

22.

c- If the electric potential of the cell is (+0.76 volt), what is the value of the oxidation potential of the metal M?

.....

.....

.....

23.

4- Explain what happen when a zinc rode is immersed in copper (II) solution salt. Write the equation

.....

.....

.....

Compare between each of the following:

- Mercury cell and nickel-cadmium cell from the following points

24.

positive pole - negative pole -

.....

.....

.....

.....

.....

.....

.....

.....

25.

- the total reaction taking place

.....

.....

Choose from (26-28)

26.

The following solution is acidic (i.e. its $\text{pH} < 7$)

(b) sea water

(a) pure water

(d) ammonia solution

(c) vinegar

27. The volume of 0.5 mole of carbon dioxide CO_2 gas at (stp) is.....

a) 11 liter b) 11.2 liter c) 22.4 liter d) 11.5 liter

28. A yellow insoluble ppt. in ammonium hydroxide solution is formed by the addition of the solution of AgNO_3 to the salt solution of

a) Br^- b) Cl^- c) PO_4^{3-}

Mention the scientific reason (29-32)

29. Slight heating is preferred during the anion detection

.....

.....

.....

.....

30. HCl is used to detect the anions of carbonate and bicarbonate

.....
.....

32.

Methanol is added to ethanol during the manufacture of converted alcohol.

.....
.....

33.

the amount of ammonia gas produced from the reaction between nitrogen and hydrogen increases by pressure

.....
.....

34. Write the scientific term

Descending arrangement of the elements according to their reduction potentials
and ascending arrangement according to their oxidation potentials.

.....

.....

.....

.....

35. Dry battery

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

37.

•Mercury cell

.....

.....

.....

.....

Aspirin and Marookh both are ester prepared from salicylic acid
Answer(38-43)

38.

1- The method used to prepare each of them.

.....

.....

.....

.....

39.

2- The type and number of functional groups in each of them.

.....

.....

.....

.....

40.

The compound that gives violet colour with iron III chloride – explain why?

41.

The compound that cause effervescence when it reacts with sodium bicarbonate – explain why?

.....
.....
.....
.....

42.

The product of reacting each of them with NaOH on cold.

.....
.....

43.

The product of ammonolysis of each them.

.....
.....

Calculate(44-45)

44.

6- The electrolysis process of sodium chloride solution was carried-out by passing an electric current, its intensity is 2 amperes, for half hour.

Calculate the volume of chlorine gas evolved ($Cl = 35.5$)

.....

.....

.....

.....

45.

b- If 20 ml of 0.2 M HCl solution is required to neutralize 10 ml of the solution after electrolysis process. What is the mass of sodium hydroxide produced if the volume of the solution is 1/2 liter.

.....

.....

.....

.....

$C_4H_{10}O$ may refer to alcohols so answer from (46-50)

46.

- draw four isomeric alcohol then Classify each of them to primary, secondary and tertiary alcohols.

.....

.....

.....

.....

47.

Explain the product of oxidation of each one.

.....

.....

.....

.....

48.

Write reaction product of each of them with ethanoic acid.

.....

.....

.....

.....

49. Write the reaction product of each of them with conc H_2SO_4 at 140° .

.....

.....

.....

.....

50. What is the structural formulae of the alkene by removal of water from each of them when they are heated with conc. H_2SO_4 at 180° .

.....

.....

.....

.....

51. Write the reaction equation between strong acid Like HCl with Fe_3O_4

•

.....

.....

.....

52. Which is easier to be oxidised 29Cu - 26Fe

-
-
-
-

53. Mention one use of ^{24}Cr

.....

.....

.....

.....

Calculate (54-55)

54. solution of silver nitrate is added to mixture 20 gm of sodium nitrate and sodium chloride till complete precipitation of 14.35 gm of silver chloride *calculate the % of sodium chloride in the sample

•

.....

.....

.....

55.

element X has a gaseous oxide XO_2 containing 72.72% of its weight oxygen calculate its molar mass

-
-
-
-

You have five different salts A,B,C,D,E

*sodium hydroxide is added to the solution A(s) a white green ppt is formed

And on adding lead acetate solution to it white ppt is formed insoluble in diluted acids

*ammonium hydroxide is added to solution B(s) a reddish brown ppt is formed and on adding conc sulphuric acid to the salt a colorless gas is formed forming a white fumes with wetted glass rod with ammonia solution

*solution of potassium permanganate is added to the solution of C(s) its color disappeared and with dry flame test of its salt it gives brick red color flame

*solution of D(s) is added to sodium bicarbonate a white ppt is formed after heating

*solution of H(s) is added to silver nitrate a white ppt is formed on cold and when its solution reacted with a solution of sodium hydroxide a white gelatinous ppt is formed

.Answer from (56-60)

56.

Identify A BY EQUATION

-
-
-

57. Identify B BY EQUATION

.....

.....

.....

.....

58. Identify C BY EQUATION

.....

.....

.....

.....

59. Identify D BY EQUATION

.....

.....

.....

.....

60. Identify H BY EQUATION

.....

.....

.....

.....

[illegible]

This image shows a full page of a document template designed for handwriting practice. It features 20 evenly spaced, horizontal dashed lines across the entire width of the page. The background is plain white, and there are no margins, text, or other markings present.