

1 Which reaction has the most positive entropy change under standard conditions?

- A)  $\text{H}_2\text{O}(\text{g}) + \text{CO}(\text{g}) \rightarrow \text{H}_2(\text{g}) + \text{CO}_2(\text{g})$
- B)  $\text{C}_8\text{H}_{18}(\text{l}) \rightarrow \text{C}_8\text{H}_{18}(\text{s})$
- C)  $\text{CaCO}_3(\text{s}) \rightarrow \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$
- D)  $\text{C}_5\text{H}_{12}(\text{g}) \rightarrow \text{C}_5\text{H}_{12}(\text{l})$
- E)  $\text{NH}_3(\text{g}) \rightarrow \text{NH}_3(\text{aq})$

Doğru Cevap : C

2 Which of these has the highest standard molar entropy at 298 K and 1 atm pressure?

- A) water,  $\text{H}_2\text{O}$
- B) copper, Cu
- C) carbon dioxide,  $\text{CO}_2$
- D) ethanol,  $\text{C}_2\text{H}_5\text{OH}$
- E) hydrogen,  $\text{H}_2$

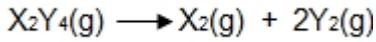
Doğru Cevap : C

3 What is the calculated value of the Gibbs free energy ( $\Delta G$ , kJ) at 300K when the enthalpy ( $\Delta H$ ) of a reaction is -25 kJ and the entropy ( $\Delta S$ ) is 50 J/K?

- A) -35
- B) -25
- C) -30
- D) -40
- E) -15

Doğru Cevap : D

4 Given the reaction,

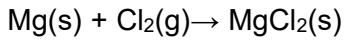


What will be the total number of moles of gas molecules present in the reaction container when 50% of 0.2 mol of  $X_2Y_4$  decomposes?

- A) 0,6
- B) 0,1
- C) 0,4
- D) 0,2
- E) 0,3

Doğru Cevap : C

5 What will be the maximum mass of magnesium chloride produced when 240 kg of magnesium reacts completely with chlorine gas in a reaction that works with a percentage yield of 80? (Mg=24, Cl=35.5)



- A) 9500 kg
- B) 950 kg
- C) 95 kg
- D) 760 kg
- E) 76 kg

Doğru Cevap : D

6 Which one of the following is not a correct statement about a catalyst?

- A) It lowers the energy of activation
- B) It changes the heat of reaction
- C) It increases the number of molecules with the necessary energy to react
- D) It changes the potential energy diagram of the reaction
- E) It changes the reaction mechanism

Doğru Cevap : B

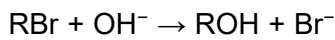
7 A Maxwell-Boltzmann curve shows the distribution of molecular energies in a reaction system.

**When the temperature in this system is decreased, the peak is;**

- A) higher and further to the left
- B) lower and further to the right
- C) lower and further to the left
- D) higher and further to the right
- E) first lower and then higher to the right

Doğru Cevap : A

8 The equation shows the hydrolysis of a bromoalkane.



The rate equation is rate =  $k[\text{RBr}]$

**RBr is most likely to be**

- A) 2-bromopropane
- B) bromomethane
- C) 2-bromo-2-methylpropane
- D) 1-bromo-1-methylpropane
- E) 1-bromo-2-methylpropane

Doğru Cevap : C

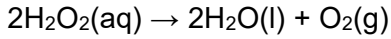
9 **Which one of the following is/are always conserved during a chemical reaction?**

- I. Type and number of atoms
- II. Physical state of species
- III. Type of molecule
- IV. Total electrical charge

- A) I and IV
- B) II, III and IV
- C) Only II
- D) III and IV
- E) I and II

Doğru Cevap : A

- 10 Hydrogen peroxide decomposes in the presence of a catalyst.



**What type of reaction occurs?**

- A) combustion
- B) hydrolysis
- C) displacement
- D) disproportionation
- E) elimination

Doğru Cevap : D

- 11 **Sodium and potassium are both Group 1 elements of the periodic table. Sodium is less reactive than potassium since;**

(<sub>11</sub>Na, <sub>19</sub>K)

- A) sodium has a smaller atomic radius so it becomes difficult to lose its outer electron
- B) sodium has a smaller melting point so it becomes less reactive
- C) sodium has a smaller first ionisation energy so it loses its outer electron more easily
- D) sodium has a larger first ionisation energy so it loses its outer electron more easily
- E) sodium has a larger atomic radius so it becomes difficult to gain an electron

Doğru Cevap : A

- 12 Chlorine is often added to wastewater for disinfection before effluent discharge.

**Which one of the following is a potential problem with this procedure?**

- A) Chlorine is a non-renewable resource and may soon be depleted.
- B) Chlorine contributes to depletion of the ozone layer.
- C) Chlorine gas is poisonous and may threaten nearby homes.
- D) Toxic chlorinated hydrocarbons may be formed.
- E) The chlorine promotes cultural eutrophication.

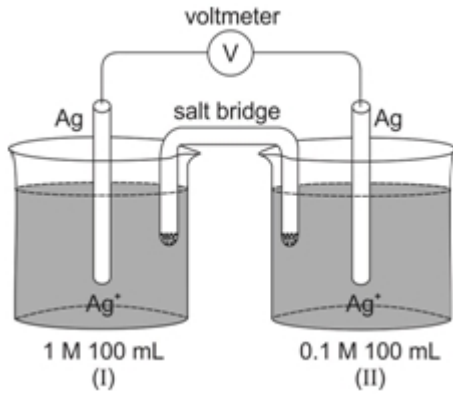
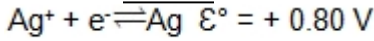
Doğru Cevap : C

- 13 **Which element is used as a 'standard' for atomic mass and why is it chosen as such?**

- A) Hydrogen, because it is the lightest element.
- B) Carbon, because it is abundant and has a stable isotope.
- C) Oxygen, because it is the most abundant element in the human body.
- D) Helium, because it is a noble gas and does not react.
- E) Iron, because it is the most abundant element on earth.

Doğru Cevap : B

14 Which is correct for the electrochemical cell given below?



- A) The addition of 0.09 mol of  $\text{Ag}^+$  to the anode compartment decreases the cell voltage to zero  
 B)  $\mathcal{E}^\circ_{\text{cell}} = + 0.80 \text{ V}$   
 C) The anode compartment of the cell is the half cell on the left side of beaker (I)  
 D) As the cell operates the concentration of  $\text{Ag}^+$  in the beaker (I) or left side increases  
 E) The addition of 100 mL of water to the beaker (I) or left side increases the cell voltage

Doğru Cevap : A

15 This question is about the reaction of potassium iodide with concentrated sulfuric acid.

One of the reaction products is the gas  $\text{H}_2\text{S}$ .

**What is the change in oxidation number of sulfur as  $\text{H}_2\text{S}$  forms?**

- A) -2  
 B) -6  
 C) +4  
 D) +6  
 E) -8

Doğru Cevap : E

16 Which one of the following statements about testing for water is correct?

- A) Water turns cobalt chloride paper from pink to blue  
 B) Sea water won't have any effect on anhydrous copper (II) sulfate or cobalt chloride paper because the water isn't pure  
 C) You can tell if a liquid is pure water because nothing will be left if you evaporate it to dryness  
 D) Water turns anhydrous copper (II) sulfate from white to blue  
 E) None of them

Doğru Cevap : D

17 A physical test for pure water can be;

- A) adding sodium carbonate solution to test the pH value of the resulting solution
- B) measuring the volume of a known mass at 35°C
- C) measuring the freezing and melting points at sea level
- D) reacting with sodium to identify the gas produced
- E) adding anhydrous copper sulfate

Doğru Cevap : C

18 Which colour and test results are correct for nitrogen dioxide gas?

- A) Colour: colourless  
Colour change with litmus paper: blue to red
- B) Colour: brown  
Colour change with litmus paper: no change
- C) Colour: brown  
Colour change with litmus paper: blue to red
- D) Colour: brown  
Colour change with litmus paper: red to blue
- E) Colour: colourless  
Colour change with litmus paper: red to blue

Doğru Cevap : C

19 A solution is prepared by dissolving 120 grams of glucose (MW: 180 g/mole) in 500 mL of water ( $d_{H_2O}=1.0$  g/mL,  $T_f(H_2O)=0^\circ C$ ).

**What is the freezing point of the solution?**

( $K_f(H_2O)=1.86$  °C.kg)

- A) 4.98 °C
- B) 0 °C
- C) -4.98 °C
- D) 2.48 °C
- E) -2.48 °C

Doğru Cevap : E

20 Which of the following hydroxides is the most soluble in water?

( $_{12}\text{Mg}$ ,  $_{13}\text{Al}$ ,  $_{20}\text{Ca}$ ,  $_{38}\text{Sr}$ ,  $_{56}\text{Ba}$ )

- A) strontium hydroxide
- B) barium hydroxide
- C) calcium hydroxide
- D) aluminium hydroxide
- E) magnesium hydroxide

Doğru Cevap : B

21 I.  $N_A$  oxygen atoms  
II.  $N_A$  oxygen molecules  
III. 2.24 L of oxygen gas at standard temperature and pressure (STP)  
IV. 6.4 g of oxygen gas

Which one of the following shows the increasing order of number of oxygen atoms in the substances above?

( $N_A = 6.02 \times 10^{23}$ ,  $O=16$ )

- A) II < IV < III < I
- B) III < IV < I < II
- C) I < II < III < IV
- D) IV < II < III < I
- E) II < IV < I < III

Doğru Cevap : B

22 What is the total number of ions in a solution of  $0.2 \text{ mol.dm}^{-3}$ , 200 ml of  $(\text{NH}_4)_2\text{SO}_4$ ?

- A)  $0.2 \times 0.2 \times 3 \times 6.0 \times 10^{23}$
- B)  $(2 + 2) \times 0.2 \times 6.0 \times 10^{23}$
- C)  $(2 + 2) \times 200 \times 6.0 \times 10^{23}$
- D)  $0.2 \times 200 \times 2 \times 6.0 \times 10^{23}$
- E)  $0.2 \times 2 \times 6.0 \times 10^{23}$

Doğru Cevap : A

23 Calculate the number of moles of glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ) in 2.15 g of  $\text{C}_6\text{H}_{12}\text{O}_6$ ?

(H: 1 g/mol; C: 12 g/mol; O: 16 g/mol)

- A) 0.02 mol
- B) 0.2 mol
- C) 0.1 mol
- D) 0.0119 mol
- E) 0.0314 mol

Doğru Cevap : D

24 An element  $M$  has the electron configuration  $[_{36}\text{Kr}] 5s^2 4d^{10} 5p^2$ . The formula for the chloride of  $M$  is most likely:

- A)  $\text{MCl}_8$
- B)  $\text{MCl}_4$
- C)  $\text{MCl}$
- D)  $\text{MCl}_3$
- E)  $\text{MCl}_6$

Doğru Cevap : B

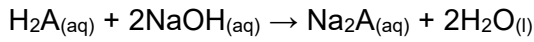
25 Which is the electronic configuration of the  $\text{Sc}^{3+}$  ion?



- A)  $1s^2 2s^2 2p^6 3p^6 3d^1 4s^2$
- B)  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^3$
- C)  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^1 4s^2$
- D)  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^4 4s^2$
- E)  $1s^2 2s^2 2p^6 3s^2 3p^6$

Doğru Cevap : E

26 A diprotic acid,  $\text{H}_2\text{A}$ , was titrated with sodium hydroxide solution.



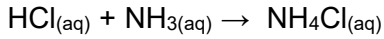
A  $50.0 \text{ cm}^3$  portion of  $0.100 \text{ mol dm}^{-3}$  sodium hydroxide solution required  $100.0 \text{ cm}^3$  of the solution of the diprotic acid for complete neutralisation.

What is the concentration of  $\text{H}_2\text{A}$  in  $\text{mol dm}^{-3}$ ?

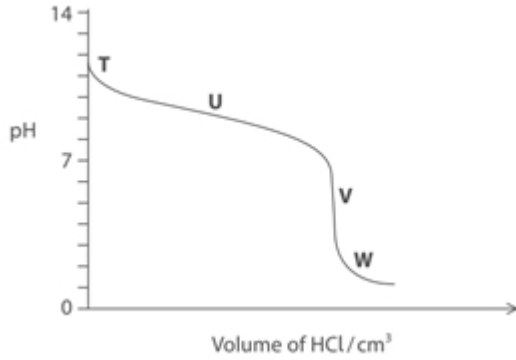
- A)  $5.00 \times 10^{-2}$
- B)  $2.50 \times 10^{-2}$
- C)  $1.00 \times 10^{-4}$
- D)  $2.50 \times 10^{-1}$
- E)  $1.00 \times 10^{-2}$

Doğru Cevap : B

- 27 A titration was carried out by adding  $0.1 \text{ mol dm}^{-3}$  hydrochloric acid to  $0.1 \text{ mol dm}^{-3}$  aqueous ammonia.



The titration curve is shown.



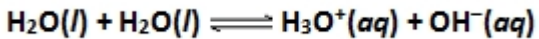
Which region(s) of the graph represents the most effective buffer solution?

- A) region U
- B) regions V and W
- C) regions V and U
- D) region W
- E) regions T and W

Doğru Cevap : A

- 28 The self-ionization of water, as represented by the below equation, is endothermic.

Which one of the following statements is true if the temperature of water is raised?



- A) The pH of water increases, and water becomes more acidic
- B) The pH of water does not change, and the water remains neutral
- C) The pH of water increases, and water remains neutral
- D) The pH of water decreases, and water becomes more acidic
- E) The pH of water decreases, and water remains neutral

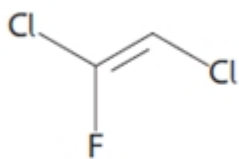
Doğru Cevap : E

29 Which molecule will have the highest boiling temperature at room conditions?

- A)  $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_2\text{CH}_2\text{CH}_3$   
 B)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$   
 C)  $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}(\text{CH}_3)\text{CH}_3$   
 D)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_3$   
 E)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

Doğru Cevap : A

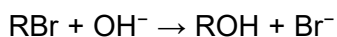
30 What is the systematic name for the chlorofluorocarbon compound shown below?



- A) *E*-1,2-dichloro-2-fluoroethene  
 B) *Z*-1,2-dichloro-1-fluoroethene  
 C) *Z*-1,4-dichloro-3-fluoroethene  
 D) *E*-1,2-dichloro-1-fluoroethene  
 E) *Z*-1,2-dichloro-2-fluoroethene

Doğru Cevap : D

31 A sample of a bromoalkane, RBr, containing a single optical isomer reacts with hydroxide ions in an  $\text{S}_{\text{N}}1$  mechanism.



The alcohol formed is a racemic mixture. From this information, it can be deduced that RBr is most likely to be

- A) tertiary only  
 B) primary only  
 C) primary, secondary or tertiary  
 D) secondary only  
 E) primary or secondary

Doğru Cevap : A

32 The order in the reduction potentials of some metals is  $\text{Cu} > \text{Fe} > \text{Zn}$ .

\*Standard electrode potential of the cell constructed by using Zn-Fe electrodes is 0.32V

\* Standard electrode potential of the cell constructed by using Fe-Cu electrodes is 0.78V

**What is the standard electrode potential of the cell constructed by using Zn-Cu electrodes?**

- A) 0.89V
- B) 0.46V
- C) 0.50V
- D) 1.10V
- E) 1.50V

Doğru Cevap : D

33 Given the information;

\*  $\text{Fe}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Fe}(\text{s})$   $E^0 = -0.44\text{V}$

\*  $\text{Cu}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Cu}(\text{s})$   $E^0 = +0.34\text{V}$

**Which one(s) of the following is / are correct for the electrochemical cell constructed by using these metals and their solutions?**

- I. Cu is more reactive than Fe
- II. The overall electrochemical cell reaction is  $\text{Cu}^{2+}(\text{aq}) + \text{Fe}(\text{s}) \rightarrow \text{Cu}(\text{s}) + \text{Fe}^{2+}(\text{aq})$
- III. The reduction potential of Cu is smaller than that of Fe

- A) Only III
- B) II and III
- C) I, II and III
- D) Only I
- E) Only II

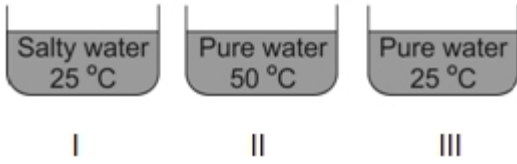
Doğru Cevap : E

34 Which one of the following classifications is wrong?

- A) Sample : Alcohol + Water  
Class : Solution
- B) Sample :  $\text{CaCO}_3$  + Water  
Class : Suspension
- C) Sample : Tin  
Class : Alloy
- D) Sample : Fizzy drink  
Class : Solution
- E) Sample : Sand + Water  
Class : Suspension

Doğru Cevap : C

35



The order of rate of evaporation of these liquids is

- A)  $II > I = III$
- B)  $I = II = III$
- C)  $II > I > III$
- D)  $II > III > I$
- E)  $III > I > II$

Doğru Cevap : D

36 Information about the physical states of matter, X, Y, Z, are given below.

According to these information, what is the correct physical state of this matter?

- I. In Y state has a definite shape.
- II. In X state, the atoms or molecules are usually separated by a little greater distances than in Y.
- III. In X state takes the shape of the container and covers the bottom.
- IV. In Z state, distances between atoms or molecules are much higher than in X.
- V. In Z state always expands to fill its container.

- A) X : Gas Y : Liquid Z : Solid
- B) X : Liquid Y : Gas Z : Solid
- C) X : Liquid Y : Solid Z : Gas
- D) X : Solid Y : Gas Z : Liquid
- E) X : Solid Y : Liquid Z : Gas

Doğru Cevap : C

37 Which compound has covalent bonds with the greatest polarity?

(Electronegativities  ${}_1\text{H}=2.1$   ${}_8\text{O}=3.5$   ${}_6\text{C}=2.5$   
 ${}_{12}\text{Mg}=1.2$   ${}_9\text{F}=4.0$   ${}_{13}\text{Al}=1.5$ )

- A)  $\text{Al}_2\text{O}_3$
- B)  $\text{MgF}_2$
- C)  $\text{CF}_4$
- D)  $\text{NaF}$
- E)  $\text{H}_2\text{O}$

Doğru Cevap : C

38 Which of these pure compounds has hydrogen bonding in the liquid state?

- A) hydrogen sulfide,  $\text{H}_2\text{S}$
- B) 1,1,1-trichloroethane,  $\text{CH}_3\text{CCl}_3$
- C) hydrogen fluoride,  $\text{HF}$
- D) trimethylamine,  $(\text{CH}_3)_3\text{N}$
- E) butane,  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$

Doğru Cevap : C

39 Which of the following is *not* being considered as an energy source for the future?

- A) hydrogen
- B) petrol
- C) geothermal
- D) wind
- E) sun

Doğru Cevap : B

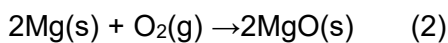
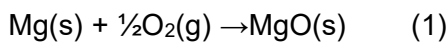
40 How many of the following substances have zero formation enthalpy under the standard conditions?

$\text{CO}(\text{g})$   $\text{H}_2(\text{g})$   $\text{Br}_2(\text{g})$   $\text{Hg}(\text{s})$   $\text{Fe}(\text{s})$

- A) 3
- B) 2
- C) 4
- D) 1
- E) 5

Doğru Cevap : B

41 The combustion of magnesium may be represented by two equations.



The units of  $\Delta H$  for equation (1) are  $\text{kJ mol}^{-1}$ . The units of  $\Delta H$  for equation (2) are

- A)  $(\text{kJ mol}^{-1}) \div 2$
- B)  $\text{kJ mol}^{-1}$
- C)  $(\text{kJ mol}^{-1})^2$
- D)  $(\text{kJ mol}^{-1}) \times 2$
- E)  $(\text{J mol}^{-1})^2$

Doğru Cevap : B

42 Infrared (IR) spectroscopy is a technique that is commonly used in organic chemistry.

Which of the following best describes the information that can be obtained from an IR spectrum?

- A) The molecular weight of a molecule
- B) The functional groups present in a molecule
- C) The concentration of a solution
- D) The number of protons in a molecule
- E) The melting point of a substance

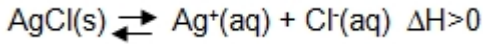
Doğru Cevap : B

43 Which of the following statements is true concerning infrared (IR) spectroscopy?

- A) IR spectroscopy is used to determine the frequency of vibrations of bonds between atoms.
- B) IR spectroscopy can be used to easily determine molecular mass.
- C) IR spectroscopy is used to identify the shape of the carbon backbone.
- D) In IR spectroscopy, the vibration between atoms is caused by the overall molecular weight of the molecule.
- E) IR spectroscopy can be used to easily determine electron number.

Doğru Cevap : A

44 Consider the following reaction,



Which one of the following is correct when the solution is heated?

- A) Solubility : constant  
K<sub>sp</sub> : increase
- B) Solubility : decrease  
K<sub>sp</sub> : decrease
- C) Solubility : increase  
K<sub>sp</sub> : decrease
- D) Solubility : increase  
K<sub>sp</sub> : increase
- E) Solubility : increase  
K<sub>sp</sub> : constant

Doğru Cevap : D

45 100 ml, 0.02M NaF solution is mixed with 100 ml of Pb(NO<sub>3</sub>)<sub>2</sub> solution.

What is the minimum molar concentration of Pb(NO<sub>3</sub>)<sub>2</sub> solution in order to start the precipitation?  
(K<sub>sp</sub> for PbF<sub>2</sub> = 4.0 x 10<sup>-8</sup>)

- A) 0,04
- B) 1.0 x 10<sup>-4</sup>
- C) 0,03
- D) 8.0 x 10<sup>-4</sup>
- E) 0,02

Doğru Cevap : D

46 What is the solubility of SrF<sub>2</sub> in 0.0500 M NaF solution? (K<sub>sp</sub>=2.45x10<sup>-9</sup>)

- A) 0.490x10<sup>-7</sup> M
- B) 9.80x10<sup>-7</sup> M
- C) 4.90x10<sup>-7</sup> M
- D) 0.0500 M
- E) 0.0250 M

Doğru Cevap : B

47 Which species has a trigonal planar structure?  
(Atomic numbers Al=13, H=1, O=8, N=7, Cl=17, P=15, C=6)

- A)  $\text{H}_3\text{O}^+$
- B)  $\text{PCl}_3$
- C)  $\text{CH}_4$
- D)  $\text{AlCl}_3$
- E)  $\text{NH}_3$

Doğru Cevap : D

48 Cyclohexane is a non-polar liquid. Therefore,

- A) Cyclohexane is used in the preparation of non-polar drugs
- B) Cyclohexane conducts electricity
- C) Cyclohexane forms two layers when mixed with water
- D) Sodium chloride is very soluble in cyclohexane
- E) A jet of cyclohexane is deflected by a charged rod

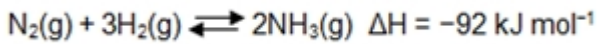
Doğru Cevap : C

49 In a chemical reaction, equilibrium is reached when:

- A) All chemical reactions stop
- B) The concentrations of reactants and products become equal
- C) The reverse reaction stops
- D) The forward reaction stops
- E) The rates of the forward and reverse reactions become equal

Doğru Cevap : E

50 The Haber process is used to make ammonia from nitrogen and hydrogen at  $450^\circ\text{C}$ .

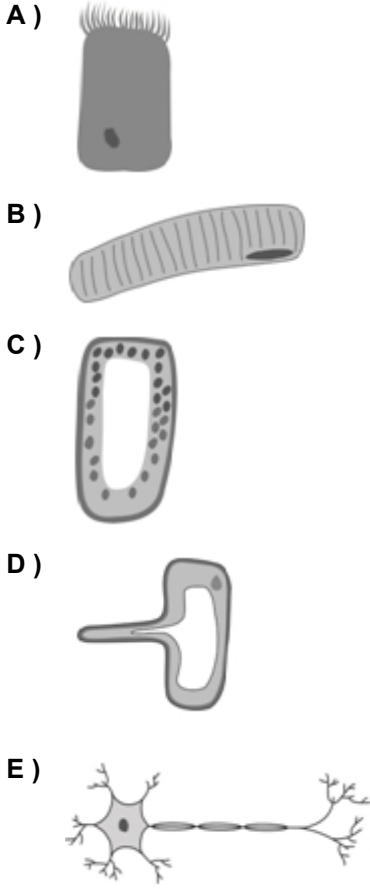


When the temperature of the system is increased;

- A)  $K_p$  stays the same
- B)  $K_p$  decreases in the new equilibrium
- C)  $K_c$  stays the same
- D)  $K_p$  increases in the new equilibrium
- E)  $K_c$  and  $K_p$  becomes equal in the new equilibrium

Doğru Cevap : B

51 Which of the following cell is a root hair cell?



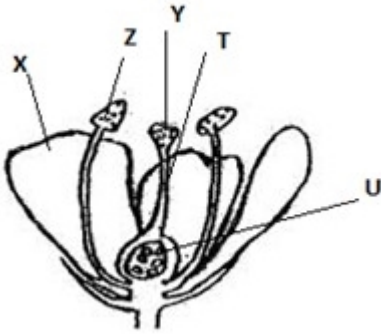
Doğru Cevap : D

52 Which one of the following life process is not described correctly?

- A) Excretion is getting rid of toxic waste
- B) Growth and development is increase in size and mass
- C) Respiration is exchange of respiratory gases
- D) Respond to stimuli is being sensitive to surrounding
- E) Reproduction is producing new offspring

Doğru Cevap : C

53



The diagram shows main structures in an insect pollinated flower.

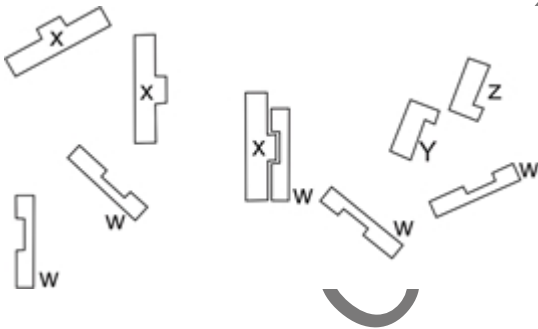
Which of the labelled parts produce sex cells?

- A) Z-U
- B) X-U
- C) X-Y
- D) T-Y
- E) U-T

Doğru Cevap : A

54 The diagram below shows the "lock and key" model of enzyme activity.

Which one gives the enzyme, product(s) and substrate(s) correctly in this reaction?



- | Enzyme | Product(s) | Substrate(s) |
|--------|------------|--------------|
| W      | Y and Z    | X            |
| X      | W          | Y and Z      |
| W      | Y          | X and Z      |
| W      | X          | Y and Z      |
| X      | Y and Z    | W            |

Doğru Cevap : A

55 Which of the following organs function as, both respiratory and excretory organ?

- A) Lungs
- B) Skin
- C) Kidneys
- D) Heart
- E) Stomach

Doğru Cevap : A

56 The human skin contains all of the following receptors except

- A) pain receptors.
- B) thermoreceptors.
- C) chemoreceptors.
- D) pressure receptors.
- E) touch receptors.

Doğru Cevap : C

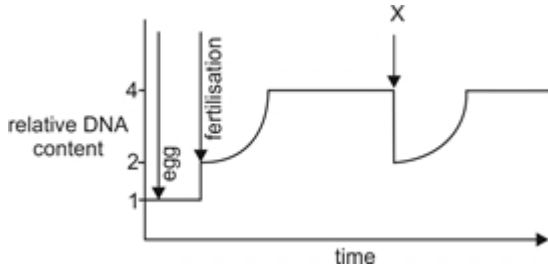
57 Which statement(s) given below is/are true for modification?

- I. It is not inheritable
- II. They cannot be reversed even if the cause of the modification no longer exists
- III. It is a result of alterations in the structure of gene(s)

- A) I and II
- B) Only II
- C) II and III
- D) I, II and III
- E) Only I

Doğru Cevap : E

- 58 The graph represents the changes in the quantity of DNA present in one nucleus at different stages in the life cycle.



Which stage takes place at X?

- A) interphase
- B) metaphase
- C) telophase
- D) anaphase
- E) prophase

Doğru Cevap : C

- 59 Which of the following statements about the carbon cycle is false?

- A) Carbon dioxide is absorbed and used as energy
- B) Carbon is mostly stored in living organisms
- C) Carbon compounds enter the food chain
- D) Carbon enters the atmosphere via carbon dioxide
- E) Carbon reenters the atmosphere via decomposition

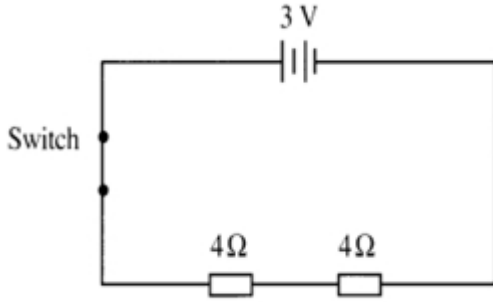
Doğru Cevap : B

- 60 Which of the following is not one of the five major types of biomes?

- A) Savanna
- B) Aquatic
- C) Tundra
- D) Desert
- E) Forest

Doğru Cevap : A

61 Diagram shows an electric circuit.



What is the heat energy produced in the circuit in 8 seconds?

- A) 3.75 J
- B) 1.125 J
- C) 24.0 J
- D) 9.0 J
- E) 6.0 J

Doğru Cevap : D

62 A positively charged conductor attracts a second object.

Which of the following statements could be true?

- I. The second object is a conductor with negative charge
- II. The second object is a conductor with zero net charge
- III. The second object is an insulator with zero net charge

- A) I and II only
- B) III only
- C) II only
- D) I only
- E) I, II and III

Doğru Cevap : E

63 In the absence of an external force a moving object will;

- A) slow down and come to a stop
- B) speed up
- C) turn to the right
- D) move with a constant speed in a straight line
- E) turn to the left

Doğru Cevap : D

64

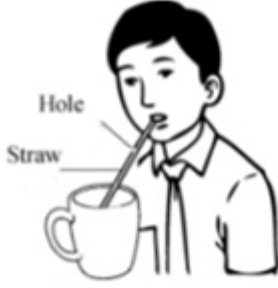


Diagram shows a boy drinking with a straw which has a small hole.

The boy found out that he cannot suck out any juice.

**Why this happened?**

- A) Pressure in the straw is lower than atmospheric pressure
- B) Pressure in the straw is higher than atmospheric pressure
- C) Pressure in the straw which is higher forces the juice down
- D) Atmospheric pressure which is greater inhibit the rise of juice through the straw
- E) Pressure in the straw is same as atmospheric pressure

Doğru Cevap : E

65 A tow truck is pulling a car out of a ditch.

**Which of the following statements is true about the forces between the truck and the car?**

- A) The force of the truck on the car is equal in magnitude to the force of the car on the truck
- B) The force of the truck on the car may be equal to the force of the car on the truck, but only when the system is in state of constant velocity
- C) The force of the truck on the car may be greater than the force of the car on the truck, but only when the system is accelerating
- D) The force of the truck on the car is less than the force of the car on the truck
- E) The force of the truck on the car is greater than the force of the car on the truck

Doğru Cevap : A

66 **Which of the following statements best describes the image produced by a concave lens?**

- A) Real, inverted, and enlarged image
- B) Virtual, upright, and reduced image
- C) Real, upright, and reduced image
- D) Virtual, inverted, and enlarged image
- E) Real, upright, and enlarged image

Doğru Cevap : B

67 The horizontal distance a projectile travels is the

- A) range
- B) flight plan
- C) torque
- D) trajectory
- E) max height

Doğru Cevap : A

68 In the international unit system, which units are used to provide the length, mass and time units, respectively?

- A) Meter, kg, hour
- B) Centimeter, gram, second
- C) Meter, kg, second
- D) Meter, gram, second
- E) Km, kg, second

Doğru Cevap : C

69 Our Sun will go through many stages.

Which of these stages will our Sun go through?

- A) a black hole
- B) red super giant
- C) a supernova
- D) a neutron star
- E) a white dwarf

Doğru Cevap : E

## 70 About sound waves;

- I. Of two wires made of the same material and of the same length and tension, the frequency of the sound produced by the thicker one is less.
- II. Of two wires made of the same material with the same thickness and tension, the frequency of the sound produced by the longer one is higher.
- III. Of two wires made of the same material with the same thickness and length, the frequency of the sound produced by the one with more tension is higher.

Which of these statements are correct?

- A) I and III
- B) II and III
- C) Only I
- D) I and II
- E) I, II and III

Doğru Cevap : A

KHK - ÖRNEK SORU KİTABI