

NATIONAL EDUCATIONAL ASSESMENT AND EXAMINATIONS AGENCY (NEAEA)
ETHIOPIAN UNIVERSITY ENTRANCE EXAMINATION (EUEE)
CHEMISTRY EXAMINATION 2010

BOOKLET CODE: 00

NUMBER OF ITEMS:

SUBJECT CODE: 00

TIME ALLOWED: 00

DIRECTIONS: Each of the following questions is followed by four possible alternatives. Choose the best answer. You may refer to the information given below when you work on some of the questions.

PHYSICAL CONSTANTS:

a. Gas constant, $R = 8.314 \text{ J mol}^{-1} \text{ K}^{-1} = 0.0821 \text{ L} \cdot \text{atm mol}^{-1} \text{ K}^{-1}$

b. Avogadro's number = $6.023 \times 10^{23} \text{ mol}^{-1}$

c. Plank's constant, $h = 6.626 \times 10^{-34} \text{ Js}^{-1}$

d. Energy, $1 \text{ eV} = 1.602 \times 10^{-19} \text{ J}$

e. Speed of light, $c = 2.9979 \times 10^{10} \text{ cm s}^{-1}$

f. Faraday's constant (F) = $96500 \text{ cmol}^{-1} \text{ e}$

g. Charge of 1 mole of electrons = 69500 C

$R_H = 2.18 \times 10^{-18} \text{ J}$

SI Units and Conversion Factors

a. $1 \text{ ton} = 907.185 \text{ kg}$

b. $1 \text{ metric ton} = 1000 \text{ kg}$

c. $1 \text{ A} = 10^{-18} \text{ m}$

d. $1 \text{ L} \cdot \text{atm} = 101.3 \text{ J}$

e. $\text{Coulombs} = \text{amperes} \times \text{seconds}$

ATOMIC NUMBER (Z) AND ATOMIC WEIGHTS (A)

Element	H	He	Li	B	C	N	O	F	Ne	Na	P	S	Cl	Ca	Cr
Z	1	2	3	5	6	7	8	9	10	11	15	16	17	20	24
A	1.0	4.0	6.9	10.8	12.0	14.0	16.0	19.0	20.2	22.98	30.97	32.1	35.5	40.1	52.0

Element	Fe	Mn	Co	Ni	Cu	Zn	Ag	Cd	Au	Hg
Z	26	25	27	28	29	30	47	48	79	80
A	55.9	54.9	58.7	58.7	63.5	65.4	107.9	112.4	197.0	200.6

1. Fats and oils are: Not Answered

- A. Acids
 B. Alcohols
 C. Alkenes
 D. Esters ✓

2. The reaction between alcohols and acyl chlorides produces Not Answered

- A. Ethers
 B. Esters ✓
 C. Carboxylic acids
 D. Aromatic salts

3. Which one of the following aqueous solutions will have the LOWEST freezing point? Not Answered

- A. Aq. 0.50m KF
 B. Aq. 0.60m glucose

- C. Aq. 0.24m FeI₃ ✓
 D. Pure H₂O

4. When a student draws a plausible Lewis structure for hydrazine molecule (N₂H₄), how many lone pair of electrons are available?

Not Answered

- A. 1
 B. 4
 C. 3
 D. 2 ✓

5. Who used the cathode Ray tube to discover the electron and determine its charge to mass ratio? Not Answered

- A. Robert A. Millikan
 B. James Chadwick
 C. J.J Thomson ✓
 D. Ernest Rutherford

6. Compounds that contain the carboxyl (carbonyl and hydroxyl) group are said to be: Not Answered

- A. Organic acids ✓
 B. Ketones
 C. Aldehydes
 D. Esters

7. The main ore of lead is called: Not Answered

- A. Zinc blend
 B. Galena ✓
 C. Cinnabar
 D. Chromite

8. During nitrification, bacterial convert into Not Answered

- A. N₂, N₂O in to nitrous oxide
 B. NO₃⁻, NH₄⁺ or nitrates into ammonium
 C. N₂ into nitrates ✓
 D. N₂, nitrous oxide into nitrogen

9. Which one of the following metals exists in a free state? Not Answered

- A. Na
 B. Mg
 C. Pt ✓
 D. Zn

10. A ___ ΔH corresponds to an ___ process. Not Answered

- A. Negative, endothermic
 B. Positive, exothermic
 C. Zero, exothermic
 D. Positive, endothermic ✓

11. Which of the following is NOT both a Bronsted-Lowry acid and a Bronsted-Lowry base? Not Answered

- A. HS⁻
 B. OH⁻ ✓
 C. HCO₃⁻
 D. HSO₄⁻

12. Chlorine has an oxidation number of +5 in: Not Answered

- A. NaClO_3 ✓
 B. NaClO_2
 C. NaClO
 D. NaClO_4

13. What is a measure of the closeness of a measurement to its true value? Not Answered

- A. Accuracy ✓
 B. Precision
 C. Reproducibility
 D. Usefulness

14. The monomer of neoprene is: Not Answered

- A. Butadiene
 B. Isoprene
 C. Chloroprene ✓
 D. 2-methyl-1,3-butadiene

15. What is the sum of 3.72×10^8 and 4.62×10^7 to the correct significant figure? Not Answered

- A. 4.991×10^7
 B. 4.17×10^8 ✓
 C. 4.172×10^8
 D. 4.99×10^7

16. Which of the following is a natural polymer? Not Answered

- A. PVC
 B. Rubber ✓
 C. Perspex
 D. Teflon

17. When a sodium chromate Na_2CrO_4 solution is acidified, it is converted to: Not Answered

- A. $\text{Cr}_2\text{O}_7^{2-}$ ✓
 B. Cr_2O_3
 C. CrO_3
 D. Cr(s)

18. Nylons are:- Not Answered

- A. Amides
 B. Peptides
 C. Polyesters
 D. Polyamides ✓

19. Which quantum number is used to be determine sub shells? Not Answered

- A. Principal quantum number
 B. Magnetic quantum number
 C. Spin quantum number
 D. Azimuthal quantum number ✓

20. The maximum kinetic energy of a photoelectron emitted from a metal is $1.03 \times 10^{-19} \text{J}$ when light that has a 656 nm wavelength shines on the surface. What is the threshold frequency for this metal? Not Answered

- A. $4.57 \times 10^{14} \text{s}^{-1}$

- B. $3.02 \times 10^{14} \text{s}^{-1}$ ✓
 C. $3.02 \times 10^{-14} \text{s}^{-1}$
 D. $4.57 \times 10^{-14} \text{s}^{-1}$

21. What is the maximum number of electrons in an atom that can have the principal quantum number $n = 4$? Not Answered

- A. 34
 B. 8
 C. 32 ✓
 D. 18

22. Which of the following questions expresses de Broglie's hypothesis? Not Answered

- A. $\lambda = h/(mv)$ ✓
 B. $\Delta E = hc/\lambda$
 C. $v=c/\lambda$
 D. $\Delta E = c/\lambda$

23. What skill is a scientist using when he/she listens to the sounds that animals make? Not Answered

- A. Drawing conclusions
 B. Making a hypothesis
 C. Interpreting data
 D. Making observations ✓

24. Which of the following is fundamentally different from the others? Not Answered

- A. Light waves
 B. Radio waves
 C. Sound waves ✓
 D. Microwaves

25. What is (are) the bond angle (s) in SF_6 ? Not Answered

- A. 109.5°
 B. 90° ✓
 C. 90° and 109.5°
 D. 180°

26. The number of resonance structures for CO_3^{2-} are: Not Answered

- A. 9
 B. 2
 C. 3 ✓
 D. 6

27. In the following equation, what type of hybridization change, if any occurs at the Xe atom? $\text{XeF}_2(\text{s}) + \text{F}_2(\text{g}) \rightarrow \text{XeF}_4(\text{s})$ Not Answered

- A. sp^3d to sp^3d^2 ✓
 B. dsp^2 to sp^3
 C. sp^3 to sp^3d
 D. sp^3d to sp^3

28. Which of the following compounds does NOT contain an ionic bond? Not Answered

- A. NaOH
 B. HCl ✓
 C. K_2S
 D. LiH

29. Which of the following statements about oxygen and fluorine is NOT correct? Not Answered

- A. O has a smaller atomic radius than F. ✓
- B. O has a smaller electron affinity than F.
- C. O^{2-} has a larger ionic radius than F^- .
- D. O and F have the same number of core electrons.

30. What will be the charges on the ions formed when silicon reacts with nitrogen? Not Answered

- A. Si^{2+} , N^{2-}
- B. Si^{3+} , N^{3-}
- C. Si^{4+} , N^{2-}
- D. Si^{4+} , N^{3-} ✓

31. The equilibrium constant for the ionization of HCN is 4.9×10^{-10}



Which of the following statements is true regarding this equilibrium?

(I) The reaction is product favoured.

(II) The reaction is reactant favoured.

(III) Equilibrium lies far to the right.

(IV) Equilibrium lies far to the left.

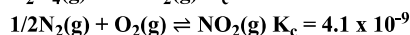
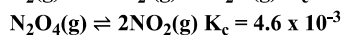
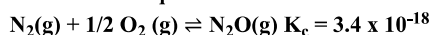
Not Answered

- A. II and III
- B. I and IV
- C. I and III
- D. II and IV ✓

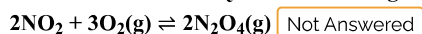
32. The rate equation for the decomposition of nitramide, $H_2NNO_2 \rightarrow N_2O + H_2O$ is rate = $k[H_2NNO_2][H^+]^{-1}$ which of the following mechanisms is consistent with this rate equation? Not Answered

- A. $H_2NNO_2 \rightleftharpoons H^+ + HNNO_2$ fast equilibrium
 $HNNO_2 \rightarrow N_2O + OH^-$ slow
 $H^+ + OH^- \rightarrow H_2O$ fast ✓
- B. $H_2NNO_2 + H^+ \rightleftharpoons H_3NNO_2^+$ fast
 $H_3NNO_2^+ \rightarrow N_2O + H_3O^+$ slow
 $H_3O^+ \rightleftharpoons H^+ + H_2O$ fast equilibrium
- C. $H_3NN^+ \rightarrow N_2O + H_2O$ slow
- D. $H_2NNO_2 \rightarrow OH^- + NH_4^+$ slow
 $NH_4^+ \rightleftharpoons NH_3 + H^+$ fast equilibrium
 $H_2O \rightleftharpoons H^+ + OH^-$ fast equilibrium

33. Given the equilibrium constant values:



What is the value of K_c for the following reaction?



- A. 1.2×10^{-6}
- B. 2.4×10^{-6}
- C. 1.2×10^6 ✓
- D. 4.8×10^6

34. Which of the following factors does NOT affect the rate of a chemical reaction? Not Answered

- A. Concentration
- B. Nature of reactants
- C. Temperature

D. Humidity ✓

35. Which of the following orbital diagrams is correct for the carbide ion (C^{2-})? Not Answered

- A. $\sigma_{1s}^2 \sigma_{1s}^{*2} \sigma_{2s}^2 \sigma_{2s}^{*2} \pi_{2p}^4$
- B. $\sigma_{1s}^2 \sigma_{1s}^{*2} \sigma_{2s}^2 \sigma_{2s}^{*2} \pi_{2p}^4 \sigma_{2p}^2 \pi_{2p}^{*2}$
- C. $\sigma_{1s}^2 \sigma_{1s}^{*2} \sigma_{2s}^2 \sigma_{2s}^{*2} \pi_{2p}^4 \sigma_{2p}^2$ ✓
- D. $\sigma_{1s}^2 \sigma_{1s}^{*2} \sigma_{2s}^2 \sigma_{2s}^{*2} \pi_{2p}^4 \sigma_{2p}^2 \pi_{2p}^{*4}$

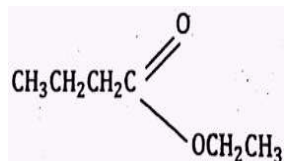
36. If a reaction is zero order in A, tripling the concentration of A will cause the reaction rate to: Not Answered

- A. Increase by a factor of 3
- B. Remain constant ✓
- C. Increase by a factor of 27
- D. Increase by a factor of 9

37. The phrase "like dissolves like" refers to the fact that: Not Answered

- A. Polar solvents dissolve non polar solutes and vice versa
- B. Solvents can only dissolve solutes of similar molar mass
- C. Polar solvents dissolve polar solutes and non-polar solvents dissolve non polar solutes ✓
- D. Gases can only dissolve other gases

38. An ester has the structural formula shown below. On hydrolysis, the ester would produce: Not Answered

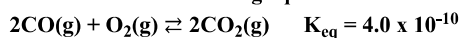


- A. Propanoic acid and propan -1 ol
- B. Butanoic acid and ethanol ✓
- C. Ethanoic acid and butan -1 -ol
- D. Propanoic acid and ethanol

39. You are given a bottle of solid x and three aqueous solutions of Y, the first saturated the second unsaturated and the third supersaturated. Which of the following is correct, if you add a small amount of the solid solute to each solution? Not Answered

- A. The solution in which the added solid solute dissolves is the saturated solution.
- B. The solution in which the added solid solute remains undissolved is the unsaturated solution.
- C. In all the three solution, saturated. Unsaturated and supersaturated the added solid solute will dissolve.
- D. The supersaturated solution is unstable and addition of additional solute causes the excess solute to crystallize. ✓

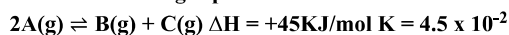
40. Consider the following equilibrium:



What is the value of K_{eq} for $2CO_2(g) \rightleftharpoons 2CO(g) + O_2(g)$? Not Answered

- A. 2.5×10^9 ✓
- B. 2.0×10^{-5}
- C. 5.0×10^4
- D. 4.0×10^{-10}

41. For a certain gas phase reaction



Which of the following would be true if the temperature was increased from 25⁰C to 200⁰C?

I. The value of k would be smaller.

II. The concentration of A(g) would be increased

III. The concentration of B(g) would increase

Not Answered

- A. I
- B. II
- C. I and II
- D. III ✓

42. Which of the following compounds would be the most soluble in H₂O? Not Answered

- A. Ethane
- B. Pentane
- C. Ethanoic acid ✓
- D. Octanoic acid

43. A 0.2M solution of a weak acid HA is 1% ionized at 25⁰C. K_a for the acid is equal to: Not Answered

- A. $\frac{0.01 \times 0.01}{0.19}$
- B. $\frac{0.02 \times 0.02}{0.18}$
- C. $\frac{0.002 \times 0.002}{0.198}$ ✓
- D. $\frac{0.19}{0.01 \times 0.01}$

44. What species of ions are present in a 0.1M solution of HCl and what will be their equilibrium concentrations? Not Answered

- A. [H₃O]⁺ = 0.1M; [OH]⁻ = 10⁻¹³M, [Cl]⁻ = 0.1M ✓
- B. [H₃O]⁺ = 0.1M; [OH]⁻ = 0.1M, [Cl]⁻ = 0.1M
- C. [H₃O]⁺ = 0.1M; [OH]⁻ = 0.01M, [Cl]⁻ = 0.1M
- D. [H₃O]⁺ = 10⁻¹³; [OH]⁻ = 0.1M, [Cl]⁻ = 0.1M

45. A solution in which prop ionic acid is 0.94% ionized has a PH of 2.85. What is the value of the acid ionization constant (K_a) for prop ionic acid? Not Answered

- A. 4.2 x 10⁻⁴
- B. 1.3 x 10⁻⁵
- C. 8.7 x 10⁻⁵ ✓
- D. 6.8 x 10⁻⁴

46. Commercial concentrated sulphuric acid (density = 1.831gcm⁻³) is 94.0% H₂SO₄ by mass. What is the normality of H₂ Not Answered

- A. 16.8M
- B. 35.0N ✓
- C. 28.2
- D. 40.4M

47. 2.3g of ethanol (CH₃CH₂OH) is added to 500g of water. What is the molality of the resulting solution? Not Answered

- A. 0.1m ✓
- B. 0.01m
- C. 1.0m
- D. 10.0m

48. A 0.5L and 0.1 M HNO_3 solution is to be prepared by dilution process from a 13M nitric acid. How many ml conc. HNO_3 and how many ml of water are required to prepare the dilute solution? Not Answered

- A. 2ml HNO_3 and 498 ml water
- B. 10ml HNO_3 and 490ml water
- C. 20ml HNO_3 and 490ml water
- D. 3.85ml HNO_3 and 496.15ml water ✓

49. During the electrolysis of $\text{CuSO}_4(\text{aq})$ using carbon electrodes, which of the following is the correct half reaction for the anode electrode? Not Answered

- A. $\text{Cu}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Cu}(\text{s})$
- B. $2\text{H}_2\text{O}(\text{l}) \rightarrow \text{O}_2(\text{g}) + 4\text{H}^+(\text{aq}) + 4\text{e}^-$
- C. $\text{SO}_4^{2-}(\text{g}) + \text{O}_2(\text{g}) + 4\text{H}^+(\text{aq}) \rightarrow \text{SO}_4^{2-}(\text{aq}) + 2\text{H}_2\text{O}(\text{l})$
- D. $4\text{OH}^-(\text{aq}) \rightarrow 2\text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g}) + 4\text{e}^-$ ✓

50. During the electrolysis of a concentrated aqueous solution of NaCl , what substance is formed at the cathode? Not Answered

- A. Chlorine
- B. Hydrogen ✓
- C. Oxygen
- D. Sodium

51. In a voltaic cell, electrons flow from the _____ to the _____ Not Answered

- A. Anode, cathode ✓
- B. Salt bridge, anode
- C. Anode, salt bridge
- D. Salt bridge, cathode

52. What is the PH of a mixture of 15.0ml of 0.126M NaOH and 21.0M H_2SO_4 ? Not Answered

- A. 1.7 ✓
- B. 11.81
- C. 2.15
- D. 13.6

53. Which of the following statement is true? Not Answered

- A. Addition of NaNO_2 to a solution of HNO_2 will decrease the PH. ✓
- B. Addition of HCl to a solution of $\text{NaC}_2\text{H}_3\text{O}_2$ will increase the PH.
- C. Addition of KBr to a solution of HBr will increase the PH.
- D. Addition of $\text{CH}_3\text{NH}_3\text{Cl}$ to a solution of CH_3NH_2 will decrease the PH.

54. What is final temperature when 150.0ml of water at 90.0°C is added to 100.0ml of water at 30.0°C ? Not Answered

- A. 66.0°C
- B. 45.0°C
- C. 60.0°C ✓
- D. 33.0°C

55. Which of the following correctly lists electromagnetic waves in order from shortest to longest wavelength? Not Answered

- A. Microwaves, ultraviolet, visible light, gamma rays
- B. Gamma rays, ultraviolet, infrared, microwaves ✓
- C. Radio waves, infrared, gamma rays, ultraviolet
- D. Gamma rays, infrared, ultraviolet, microwaves

56. The relationship between Pico meter (pm) and nanometre (nm) is: Not Answered

- A. $1\text{nm} = 1000\text{pm}$ ✓
- B. $1\text{nm} = 10\text{pm}$
- C. $1\text{pm} = 100\text{nm}$
- D. $1\text{pm} = 10\text{nm}$

57. What would be the wavelength of a radio wave having a frequency of 3 MHz? Not Answered

- A. 100nm
- B. 300m
- C. 100m ✓
- D. 300nm

58. The process of vulcanization of rubber makes it Not Answered

- A. More soluble in solvents
- B. Soft
- C. Less elastic
- D. Hard ✓

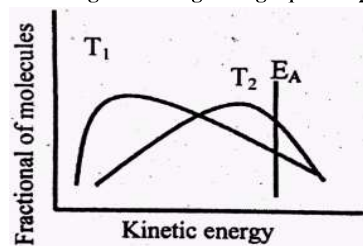
59. Which of the following is NOT the decomposition product of HNO_3 ? Not Answered

- A. NO_2
- B. O_2
- C. N_2O_4 ✓
- D. H_2O

60. To determine the volume of an irregularly shaped glass vessel, the vessel is weighed empty (121.3g) and when filled with CCl_4 (283.2g). What is the volume capacity of the vessel, given that the density of CCl_4 is 1.59g/cm^3 ? Not Answered

- A. 76.29cm^3
- B. 178.11cm^3
- C. 101.82cm^3 ✓
- D. 257.42cm^3

61. The diagram below shows the range of energies of collision of a collection of reactants at two temperatures, T_1 and T_2 . Which of the following is true regarding T_1 and T_2 ?



Not Answered

- A. $T_1 = T_2$, fraction of molecules at both temperatures are equal. ✓
- B. $T_2 < T_1$, fraction of molecules at T_2 is smaller.
- C. $T_1 < T_2$, fraction of molecules at T_1 is larger.
- D. $T_1 < T_2$, fraction of molecules at T_1 is smaller.

62. For the reaction $\text{C}_6\text{H}_{14}(\text{g}) \rightarrow \text{C}_6\text{H}_6(\text{g}) + 4\text{H}_2(\text{g})$, $\Delta p(\text{H}_2)/\Delta t$ was found to be $2.5 \times 10^{-2} \text{ atm/s}$, where $\Delta p(\text{H}_2)$ is change in the pressure of hydrogen. Determine $\Delta p(\text{H}_6\text{H}_{14})/\Delta t$ in units of atm/s for this reaction at the same time. Not Answered

- A. 6.2×10^{-2}
- B. 1.6×10^{-3}
- C. -6.2×10^{-3} ✓
- D. 2.5×10^{-2}

63. The decomposition of a compound at 400°C is first order with a half-life of 1570 seconds what fraction of an initial amount of the compound remains after 4710 seconds? Not Answered

- A. 1/8 ✓
- B. 1/12
- C. 1/6
- D. 1/3

64. Given the following AF_n species, BF_3 , BeF_2 , CF_4 , NF_3 , OF_2 . What is the correct order of F - A - F bond angles? Not Answered

- A. $OF_2 < BeF_2 < NF_3 < BF_3 < CF_4$
- B. $BeF_2 < OF_2 < NF_3 < BF_3 < CF_4$
- C. $CF_4 < NF_3 < BeF_2 < OF_2$
- D. $OF_2 < NF_3 < CF_4 < BF_3 < BeF_2$ ✓

65. From CO_2 , H_2O , $BeCl_2$ and N_2O which have the same molecular geometry? Not Answered

- A. CO_2 , H_2O and N_2O
- B. CO_2 , $BeCl_2$ and N_2O
- C. CO_2 and $BeCl_2$ only ✓
- D. H_2O and N_2O only

66. How many electrons are present in the σ_{2p} molecular orbital of N_2^+ ? Not Answered

- A. 2
- B. 1 ✓
- C. 3
- D. 4

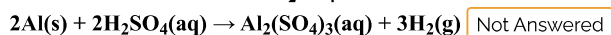
67. A solution of NH_4Cl made by dissolving 3.16g NH_4Cl in 30.14g H_2O has a density of $1.0272g\ cm^{-3}$. What is the mole fraction of NH_4Cl ? Not Answered

- A. 0.9659
- B. 0.21
- C. 0.65
- D. 0.0341 ✓

68. Which of the following is true regarding the solution formation process? Not Answered

- A. New coulombic attraction between the solute and solvent form in which the enthalpy change is exothermic ($\Delta H < 0$) ✓
- B. Intermolecular forces between the solvent molecules must weaken in which the enthalpy change is exothermic ($\Delta H < 0$)
- C. Intermolecular forces between the solute particles must weaken in which the enthalpy change is exothermic ($\Delta H < 0$)
- D. Covalent bonds within the solute and solvent molecules must be broken

69. What volume of 1.40M H_2SO_4 solution is needed to react exactly with 10.0g of aluminium according of the following reaction?

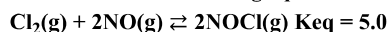


- A. 2.643ml
- B. 264.3ml ✓
- C. 26.43ml
- D. 2643ml

70. Which of the following statements is NOT true in relation to the triple point on a single component phase diagram? Not Answered

- A. The point at which the solid, liquid and gaseous phases for a substance co-exist.
- B. The triple point exists at a single temperature and is independent of pressure. ✓
- C. The system must be enclosed so that no Vapour can escape
- D. The triple point exists for a substance occurs at a specific temperature and pressure.

71. Consider the following equilibrium:



At equilibrium, $[Cl_2] = 1.0M$ and $[NO] = 2.0M$. What is the $[NOCl]$ at equilibrium? Not Answered

- A. 0.80M
- B. 0.89
- C. 10M
- D. 4.5M ✓

72. Which acid is produced when toluene is subjected to KMnO_4 oxidation? Not Answered

- A. Phenyl acetic acid
- B. Toluic acid
- C. Benzoic acid ✓
- D. Phthalic acid

73. Which of the following statement is true? Not Answered

- A. If the entropy of the system increases during a reversible process, the entropy change will also increase by the same amount. ✓
- B. If the entropy of the system increases during a reversible process, the entropy change of the surroundings will remain the same
- C. If the entropy of the system increases during a reversible process, the entropy change of the surroundings will decrease by the same amount
- D. If the entropy of the system decreases during a reversible process, the entropy change of the surroundings will also decreases by the same amount

74. Calculate ΔH for the following reaction using the bond energies given below $\text{H} - \text{H}(\text{g}) + \text{I} - \text{I}(\text{g}) \rightarrow 2\text{H} - \text{I}(\text{g})$ bond energies: $\text{H} - \text{H} = 436\text{KJ/mol}$, $\text{I} - \text{I} = 151\text{KJ/mol}$, $\text{H} - \text{I} = 297\text{KJ/mol}$ Not Answered

- A. -7KJ ✓
- B. -290KJ
- C. +7KJ
- D. +290KJ

75. How long has a current of 3 ampere to be applied through a solution of silver nitrate to coat a metal surface of 80cm^2 with 0.005cm thick layer? Density of silver = 10.5gcm^{-3} Not Answered

- A. 476s
- B. 1252s ✓
- C. 683s
- D. 1028s

76. Which of the following is an organic acid? Not Answered

- A. $\text{CH}_3\text{CH}_2\text{OH}$
- B. CH_3CH_3
- C. $\text{CH}_2 = \text{CH}_2$
- D. $\text{CH}_3\text{CO}_2\text{H}$ ✓

77. What is the freezing point of a 0.1m solution of NaCl (in $^{\circ}\text{C}$)? $K_T = 1.86^{\circ}\text{C/m}$ and the freezing point of pure water is ($^{\circ}\text{C}$) Not Answered

- A. -0.186 ✓
- B. -0.372
- C. -1.86
- D. -0.093

78. During a titration what volume of 0.500M KOH is necessary to completely neutralize 10.0ml of 2.00M CH_3COOH ? Not Answered

- A. 10.0ml
- B. 40.0ml ✓
- C. 25.0ml
- D. 20.0ml

79. What is the standard cell potential of the oxidation of ammonia, given below?

$4\text{NH}_3 + 3\text{O}_2 \rightarrow 2\text{N}_2 + 6\text{H}_2\text{O}$ $\Delta G^{\circ} = -1356\text{KJ}$ Not Answered

- A. 7.02V
 B. 3.51V
 C. 1.17V ✓
 D. 14.04V

80. Two electrolytic cells were placed in series, one of AgNO_3 and the other of CuSO_4 . If 1.273g Ag is deposited, how much Cu was deposited, how much Cu was deposited at the same time? Not Answered

- A. 0.374 ✓
 B. 0.0118
 C. 0.748
 D. 0.954

Your Answers

you have scored 0 out of 0

Answer Key

1.D	11.B	21.C	31.D	41.D	51.A	61.A	71.D
2.B	12.A	22.A	32.A	42.C	52.A	62.C	72.C
3.C	13.A	23.D	33.C	43.C	53.A	63.A	73.A
4.D	14.C	24.C	34.D	44.A	54.C	64.D	74.A
5.C	15.B	25.B	35.C	45.C	55.B	65.C	75.B
6.A	16.B	26.C	36.B	46.B	56.A	66.B	76.D
7.B	17.A	27.A	37.C	47.A	57.C	67.D	77.A
8.C	18.D	28.B	38.B	48.D	58.D	68.A	78.B
9.C	19.D	29.A	39.D	49.D	59.C	69.B	79.C
10.D	20.B	30.D	40.A	50.B	60.C	70.B	80.A

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