

Asosiy fan-2: Kimyo

61. Sog'lom odamning qon plazmasi tarkibida Na^+ , K^+ , Ca^{2+} ionlarining mol nisbati doim 1:1,4:9,6 bo'ladi. Bu muhim sog'lik indikator bo'lib, uning o'zgarishi kasallik to'g'risida belgi beradi. Agar sog'lom odamdan olingan qon plazmasi tarkibidagi Na^+ ionining massasi 16,1 g bo'lsa, shu qon plazmasidagi Na^+ , K^+ , Ca^{2+} ionlarining miqdorlarini (mol) mos ravishda aniqlang.

A) 0,7; 0,98; 7,68

B) 0,9; 0,98; 6,72

C) 0,7; 1,12; 7,5

D) 0,7; 0,98; 6,72

Yechim:

$$\begin{array}{ccc} \text{Na}^+ & \text{K}^+ & \text{Ca}^{2+} \\ 1\text{m} & 1,4\text{m} & 9,6\text{m} \\ 16,1\text{g}/23\text{g} = 0,7\text{m} & x & y \\ x = 0,98\text{m} & y = 6,72\text{m} \end{array}$$

62. Qum hammomi nima maqsadda ishlatiladi?

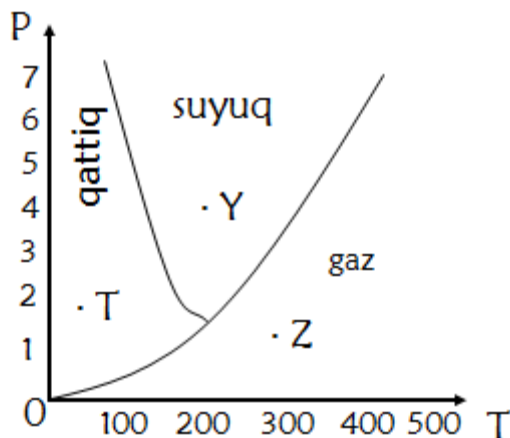
A) tubi yumaloq kolbalarni va chinni kosalarini tutib turishda

B) tubi yassi va konussimon kolbalarni qizdirishda

C) Turli xil qaynash haroratidagi suyuqliklarni haydashda

D) tutqich va probirkalar suvutgichlarni qisib ushlab turish uchun

63. Quyidagi grafikka e'tibor qiling.



Qaysi biri kondensatlanish jarayoni bo'lishini belgilang.

A) $T \rightarrow Z$ B) $Y \rightarrow Z$ C) $Z \rightarrow Y$ D) $Y \rightarrow T$

Yechim: Kondensatlanish bu gaz moddaning suyuq agregat holatga o'tishi! $Z \rightarrow Y$

64. Suyultirilgan sulfat kislota qaysi moddalar bilan reaksiyaga kirishadi?

1) Na_2SO_4 2) KOH 3) LiHCO_3 4) KCl

A) 1,2 B) 2,3 C) 2,4 D) 1,3

Yechim: 2 va 3

1) $\text{Na}_2\text{SO}_4 + \text{H}_2\text{SO}_4 \rightarrow ?$

2) $2\text{KOH} + \text{H}_2\text{SO}_4 \rightarrow \text{K}_2\text{SO}_4 + 2\text{H}_2\text{O}$

3) $2\text{LiHCO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{Li}_2\text{SO}_4 + \text{CO}_2 + \text{H}_2\text{O}$

4) $\text{KCl} + \text{H}_2\text{SO}_4 \rightarrow ?$

65. Rux gidroksid solingan 2 ta probirkaga birinchisiga kuchli X kislota va ikkinchisiga Y kuchli elektrolit solinganda rux gidroksid to'liq erib ketdi. X va Y ni aniqlang.

1. sirka kislota 2. Xlorid kislota 3. Litiy gidroksid

4. Natriy xlor

A) 2,3

B) 1,3

C) 2,4

D) 1,2

Yechim: kuchli kislota va kuchli elektrolit jumlariga e'tibor qiling.

$X = \text{HCl} \quad \text{Zn}(\text{OH})_2 + 2\text{HCl} = \text{ZnCl}_2 + 2\text{H}_2\text{O}$

$Y = \text{LiOH} \quad 2\text{LiOH} + \text{Zn}(\text{OH})_2 \rightarrow \text{Li}_2[\text{Zn}(\text{OH})_4]$

66. Massasi 365g bo'lgan xlorid kislota eritmasiga qoldiqsiz reaksiyaga kirishuvchi miqdorda Fe_3O_4 qo'shilganda hosil bo'lgan tuzlar massa farqi 39.6g bo'ldi. dastlabki eritma konsentratsiyasi (%) topilsin.

A) 16

B) 8

C) 12

D) 22,2

Yechim:

$$\begin{array}{ccccccc} \text{Fe}_3\text{O}_4 + 8\text{HCl} = \text{FeCl}_2 + 2\text{FeCl}_3 + 4\text{H}_2\text{O} & \Delta & & & & & \\ 232\text{g} & \text{---} & 8\text{m} & \text{---} & 127\text{g} & \text{---} & 325\text{g} & \text{---} & 198\text{g} \\ & & x & & & & & & 39,6 \\ & & & & & & & & x = 1,6\text{m} \cdot 36,5 = 58,4\text{g} \end{array}$$

Dastlabki eritma foizini topamiz.

365g ----- 100%

58,5g ----- x = 16%

67. Qaysi xususiyat davriy jadvalda kichik davrlarda tartib raqam ortishi bilan faqat kamayadi?

A) valent elektronlar soni B) toq elektronlar soni

C) atom radius

D) elektromanfiylik

68. $(\text{NH}_4)_2\text{S}_2\text{O}_3$ tarkibida qanday bog'lanish mavjud emas?

A) qutbsiz kovalent

B) ion

C) metall

D) donor - akseptor

69. H_2SO_4 eritmasi tarkibida sp^3 va sp^2 gibrid orbitalar 14:3 nisbatda bo'lsa, 51g eritmani to'liq neytrallashtirish uchun zarur bo'lgan 2N li NaOH eritmasining hajmi (ml) topilsin.

A) 150

B) 450

C) 250

D) 300

Yechim:

$$\begin{array}{ccc} \text{H}_2\text{SO}_4 + x\text{H}_2\text{O} & & \\ & \frac{(\text{sp}^3)12 + 4x}{14} = \frac{(\text{sp}^2)6}{3} = & \end{array}$$

x = 4

$\text{H}_2\text{SO}_4 + 4\text{H}_2\text{O}$ H_2SO_4

98g + 72g = 170g ----- 1m

51g ----- x = 0.3m

$\text{H}_2\text{SO}_4 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$

1m ---- 2m

0.3m ---- x = 0.6m (0,6ekv bo'ladi)

2N ----- 1000ml

0.6ekv ----- x = 300ml

70. Eritmaga xos malumotni toping.

1) rangli bo'lishi mumkin

2) tarkibi bir xil moddadan iborat

3) eritma tayyorlashda hajm o'zgarmaydi

4) temperaturani ko'tarib erituvchi va erigan moddaga ajratish mumkin

A) 1,4

B) 2,3

C) 1,3

D) 2,4

71. Dissosiyalishi natijasida zaryadi faqat 1 bo'lgan ionlar hosil qiladigan elektrolit moddalarni belgilang.

A) H_2O ; LiOH

B) CaBr_2 ; KOH

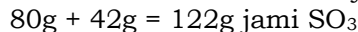
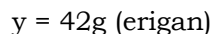
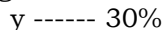
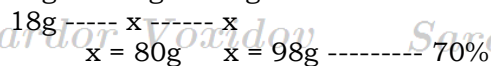
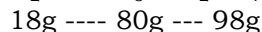
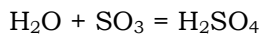
C) NaCl ; NaOH

D) H_2SO_4 ; Na_2CO_3

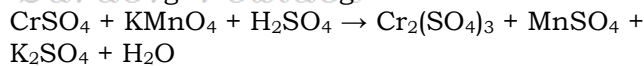
72. 30% li oleum tayyorlash uchun 18g suvda qanday massada (g) SO_3 eritish zarur?

A) 61 B) 122 C) 80 D) 48

Yechim:

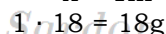
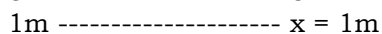
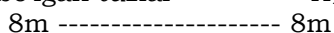
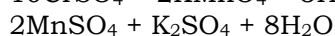
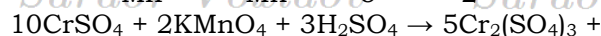
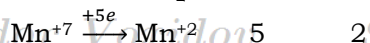
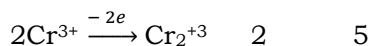


73. Reaksiyani tenglashtitring va reaksiya vaqtida 1 mol tuz olinganda necha gramm suv hosil bo'ladi?



A) 18 B) 72 C) 27 D) 36

Yechim:

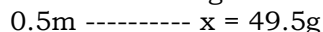
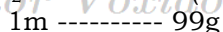
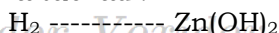


74. ZnCl_2 eritmasi elektroliz qilinganda katodda 11,2 litr (n.sh.) va anodda 33,6 litr (n.sh.) faqat yashil gaz ajraldi. Shu jarayonda hosil bo'lgan cho'kma massasi (g) topilsin.

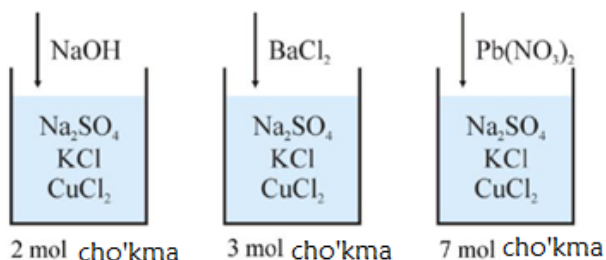
A) 99 B) 49,5 C) 198 D) 148,5

Yechim:

Alohida ikkita reaksiya orqali ishlasak bo'ladi, lekin oson usul ham bor ya'ni Zn^{2+} olishi kerak bo'lgan elektroni H^+ olgan demak shuning hisobidan cho'kma tushadi!



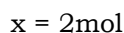
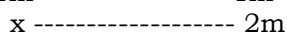
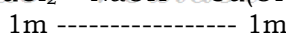
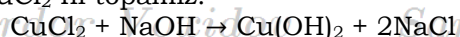
75. Berilgan ma'lumotdan foydalanib idishda mavjud KCl miqdori (mol) topilsin.



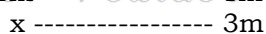
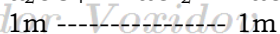
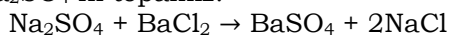
A) 4 B) 2 C) 3 D) 1

Yechim:

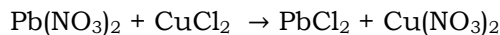
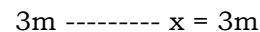
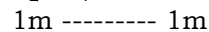
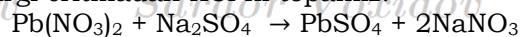
CuCl_2 ni topamiz.



Na_2SO_4 ni topamiz.



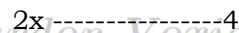
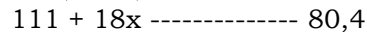
Oxirgi eritmadan KCl ni topamiz.



76. $\text{CaCl}_2 \cdot x\text{H}_2\text{O}$ ning 80,4 g miqdori tarkibida 4 g vodorod borligi ma'lum bo'lsa, kristallizatsion suv molekulasini sonini (x) aniqlang

A) 5 B) 6 C) 4 D) 2

Yechim: $\text{CaCl}_2 \cdot x\text{H}_2\text{O}$



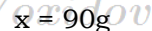
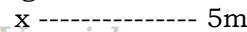
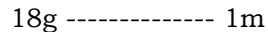
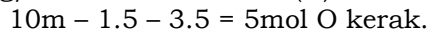
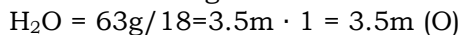
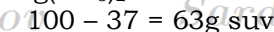
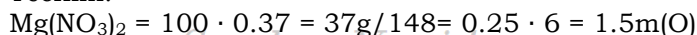
77. Asab kasalliklari va uyqusizlikda bemorlarga qanday element tutgan dori darmonlar tavsiya qilinadi?

A) Ag B) Br C) Ca D) J

78. $\text{Mg(NO}_3)_2$ ning 100 g 37 % li eritmasiga necha gramm H_2O qo'shilsa, eritmadagi kislorod atomlari soni avagadro sonidan 10 marta ko'p bo'ladi ?

A) 54 B) 72 C) 90 D) 81

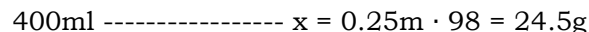
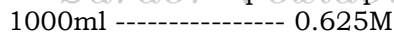
Yechim:



79. 0,625 M li 400 ml H_2SO_4 eritmasini tayyorlash uchun uning titri 0,980 g/ml bo'lgan eritmasidan qanday hajmda (ml) olish kerak?

A) 80 B) 39,2 C) 40 D) 25

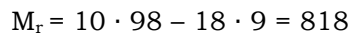
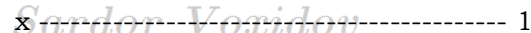
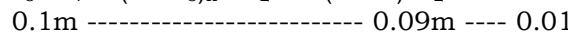
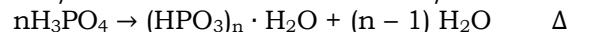
Yechim: sulfat kislota miqdorini topamiz.



80. 9,8g H_3PO_4 kislota qizdirilganda $(\text{HPO}_3)_n \cdot \text{H}_2\text{O}$ ko'rinishidagi chiziqli polimer va 1,62 g suv hosil bo'ldi. Polimerning nisbiy molekulyar massasini (u) toping.

A) 1938 B) 738 C) 818 D) 898

Yechim: $9,8/98 = 0,1\text{m}$ $1,62/18 = 0,09\text{m}$



81. Quyidagi jadvalda moddalar va ularning mollar massalarini to'g'ri moslang.

N:	Modda	M
1	Stirol - I	a) 108
2	Krezol - II	b) 104
3	Gidroxinon - III	c) 110

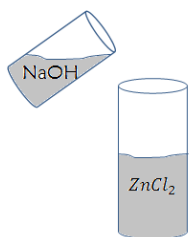
A) I - a ; II - b; III - c

B) I - b ; II - c; III - a

C) I - b ; II - a; III - c

D) I - a ; II - c; III - b

82. Quydagi tajribada hosil bo'lgan cho'kma qanday rangda bo'ladi?

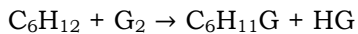


A) Oq B) Havorang C) qizil D) Qora

83. 0,4 mol siklogeksanga qaysi galogen ta'sir ettirilganda 75 % unum bilan 48,9 gr monohosila olinadi?

A) F₂ B) Cl₂ C) Br₂ D) J₂

Yechim: $0,4 \cdot 0,75 = 0,3 \text{ mol}$ reaksiyaga kirishgan.



$$0,3 \text{ m} \text{ ----- } 48,9 \text{ g}$$



$$1 \text{ m} \text{ ----- } x = 163 \text{ g} - 83 = 80 \rightarrow \text{Br}$$

84. CH₃-CH=CH-C=CH modda uchun quyidagi berilgan jadvaldan qaysi birin tog'ri?

N:	σ	π	Uglerod atomlari gibrizlanishi	Jami gibriz orbitallar
1	10	2	sp;sp;sp ² ;sp ² ;sp ³	16
2	11	3	sp;sp;sp;sp ³ ;sp ²	14
3	10	3	sp ² ;sp;sp ² ;sp ² ;sp ³	14
4	10	3	sp;sp;sp ² ;sp ² ;sp ³	14

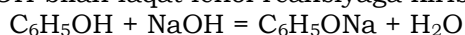
A) 1 B) 2 C) 3 D) 4

85. Teng miqdordagi fenol va to'yingan bir atomli spirt aralashmasida vodorod va kislorod atomlari son nisbati N(H)/N(O) = 12:1. Aralashma natriy bilan 0,4 mol gaz ajralib chiqdi, xuddi shunday tarkibli aralashma 0,2 mol NaOH bilan to'liq ta'sirlashadi. Noma'lum spirt molar massasi (g/mol) topilsin.

A) 74 B) 88 C) 102 D) 116

Yechim: Spirt ham fenol ham 2 molidan 1 mol vodorod ajratib chiqaradi, dekan $0,4 \cdot 2 = 0,8 \text{ mol}$ dastlabki aralashma bo'lgan.

NaOH bilan faqat fenol reaksiyaga kirishadi.

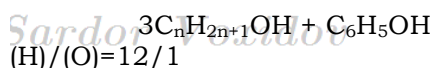
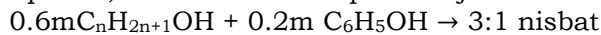


$$1 \text{ m} \text{ ---- } 1 \text{ m}$$

$$x \text{ ----- } 0,2 \text{ m}$$

$$x = 0,2 \text{ m}$$

Spirt: $0,8 - 0,2 = 0,6 \text{ mol}$ spirt mavjud.



(H)/(O)=12/1

$$\frac{3(2n+2)+6}{3+1} = 12$$

$$6n+6+6=48$$

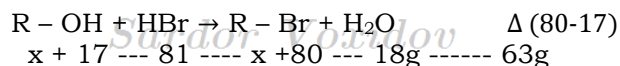
$$6n=36$$

$$n=6 \quad \text{C}_6\text{H}_{13}\text{OH} = 102$$

86. Metanol, etanol va propanoldan iborat aralashmaga bromid kislotasi ta'sir ettirilganda 35,7g monobormli hosilalar va 5,4g suv hosil bo'ldi. dastlabki aralashma massasi (g) topilsin.

A) 16,8 B) 17,2 C) 11,8 D) 21,1

Yechim:



$$x + 17 \text{ ---- } 81 \text{ ---- } x + 80 \text{ ---- } 18 \text{ g ---- } 63 \text{ g}$$

$$5,4 \text{ g ---- } x = 18,9 \text{ g}$$

$$\text{Daslabki aralashma: } 35,7 - 18,9 = 16,8 \text{ g}$$

87. Quyidagi reaksiya sxemalariga e'tibor qiling.



(M(C) > M(A))

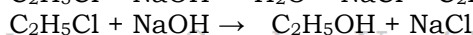
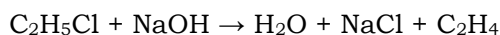
A modda molekulasida nechta sp³ orbital mavjud?

A) 4 B) 20 C) 16 D) 12

Yechim:

3 ta maxsulot chiqsa spirtli eritma, ikkita mahsulot chiqqanda esa suvli eritma bo'ladi.

Ikkala reaksiyadan ham chiqqan modda NaCl, birinchi reaksiyada C modda og'ir demak C modda etilen.



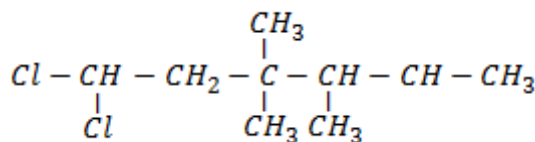
A = H₂O

B = NaCl

C = C₂H₄

D = C₂H₅OH

88. Quyidagi moddani nomlang.



A) 3,3,4 - trimetil - 1,1 - dixlorgeptak
B) 3,4,4 - trimetil - 1,1 - dixlorgeksan
C) 2,3,4 - trimetil - 1,1 - dixlorgeksan
D) 3,3,4 - trimetil - 1,1 - dixlorgeksan

89. 0,1 mol aromatik uglevodorod yonishidan hosil bo'lgan suv massasi m g, korbanat angidrid massasi esa m + 23,6 g bo'lsa, aren molekulasida jami bog'lar soni topilsin.

A) 15 B) 18 C) 21 D) 24

Yechim: $0,1 \text{ ---- } 23,6 \text{ g}$

$$1 \text{ m} \text{ ---- } x = 236 \text{ g}$$



$$1 \text{ m} \text{ ----- } 44n \text{ ---- } (18n - 54)$$

$$44n - (18n - 54) = 236$$

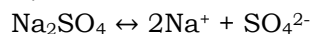
$$26n = 182$$

$$n = 7 \rightarrow \text{C}_7\text{H}_8$$

90. 1700 g NaNO₃ eritmasiga 284 g Na₂SO₄ qo'shilganidan keyin eritmadagi NO₃⁻ va SO₄²⁻ ionlarining mol nisbati 3:1 ni tashkil etdi (barcha suvda eriydigan tuzlar uchun α=100%). Dastlabki eritmadagi NaNO₃ tuzining massa ulushini (%) aniqlang.

A) 15 B) 44 C) 30 D) 66

Yechim:



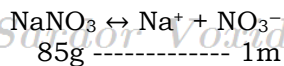
$$142 \text{ g} \text{ ----- } 1 \text{ m}$$

$$284 \text{ g} \text{ ---- } x = 2 \text{ m} \cdot 3 = 6 \text{ mol NO}_3^-$$

Sardor Voxidov

Sardor Voxidov

Sardor Voxidov



85g ----- 1m

x ----- 6m

x = 510g

1700g ----- 100%

510g ----- x = 30%

Sardor Voxidov

Sardor Voxidov

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Sardor Voxidov

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