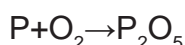
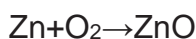
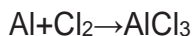
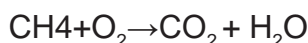
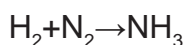
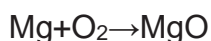
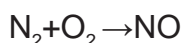
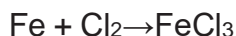
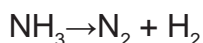
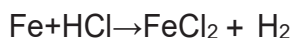


## II BOB. 23-MAVZU.

**Kimyoviy reaksiylarning tenglamalarini tuzishga oid mashqlar bajarish.**

**Kimyoviy hodisalar = kimyoviy reaksiyalar**

1. Kimyoviy reaksiyalarga koeffitsiyentlar qo'ying.



2. Kimyoviy reaksiyalar tenglamalarini tuzish algoritmidan foydalanib, quyidagi moddalar jufti o'rtasidagi o'zaro ta'sir reaksiyalari tenglamalarini tuzing.

1) Na va  $\text{O}_2$

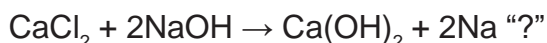
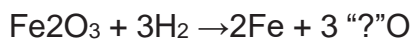
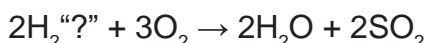
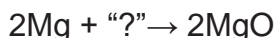
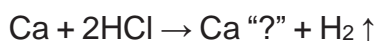
2) Na va  $\text{Cl}_2$

3) Al va S

4) Fe va  $\text{O}_2$

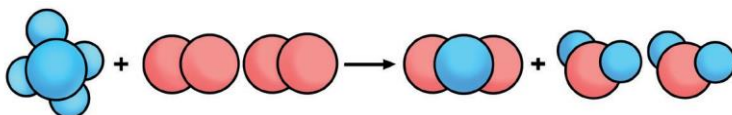
5)  $\text{N}_2$  va  $\text{H}_2$

3. Kimyoviy reaksiyalar tenglamalaridagi “?” belgili bo'shliqlarni to'g'ri to'ldiring.



4. Qizg'ish mis kukuni (6,4 g) sariq oltingugurt kukuni (3,2 g) bilan aralashtirildi va qizdirildi. Qora kukun hosil bo'ldi. Olingan qora kukunning massasi qancha?

Reaksiya tenglamasini yozing.



## O'rganiladigan natijalar

- Kimyoviy reaksiylarning tenglamalarini tuzish;
- Kimyoviy reaksiylarning tenglamalarini tenglash

Shartli belgilar

Kimyoviy reaksiyalar tenglamalarini tuzish uchun reaksiya qanday borishini ko'rsatadigan ma'lum belgilarni bilish kerak. Kimyoviy tenglamalarda quyidagi belgilar qo'llanadi:

→ – qaytmas, (bir yo'nalishda ketadi);

• yoki ↔ – qaytar reaksiya (ikki tomonga boradi);

↑ – gaz ajralishi;

↓ – cho'kma tushishi; hv – yorug'lik;

t° – harorat (daraja miqdorini ko'rsatishi mumkin);

Q – issiqlik;

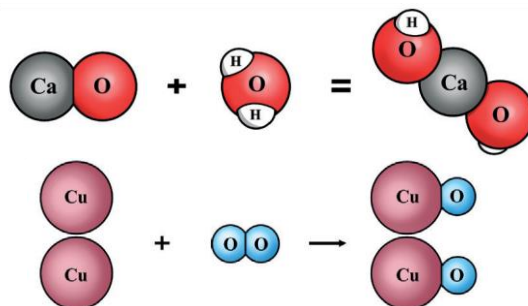
E (qattiq.) – qattiq modda;

E (gaz) yoki E (g) – gazsimon modda;

E (kons.) – konsentrlangan modda; E (suvli.) – moddaning suvli eritmasi.

Strelka (→) o'rniga teng belgisi (=) qo'yilishi ham mumkin.

5. Atmosferada chaqmoq oqimlari paytida quyidagi reaksiya sodir bo'ladi:  $\text{N}_2 + \text{O}_2 \rightarrow \text{NO}_2$ . Reaksiya tenglamasini tenglashtiring. 1 mol azotni  $\text{NO}_2$  ga to'liq aylantirish uchun necha mol kislorod kerak? Bu necha gramm kislorod bo'ladi? Necha gramm  $\text{NO}_2$  hosil bo'ladi?



## II BOB. 24-MAVZU.

### Bobga doir testlar yechish, mashqlar bajarish

### O'rganiladigan natijalar

- Atom va uning tuzilishi; nisbiy molekulyar massa; oddiy va murakkab moddalar; moddaning molyar massasini aniqlash; modda miqdori; kimyoviy reaksiyalar tenglamalarini tuzish; kimyoviy reaksiyalar tenglamalarini tenglash.

1. Tasavvur qiling, sizning qo'lingizda sehrli tayoqcha bor va siz:

- a) toshni qumga;                      b) kislorodni ozonga;  
c) bug'ni muzga aylantirdingiz.

Qaysi holatda kimyoviy hodisalarni amalga oshirgan bo'lasiz?



2. Oddiy moddalarni toping: havo, suv, ozon, asal, dengiz suvi, kislorod, azot.

3. Berilganlardan ikkita murakkab moddalarni toping: kislorod, ozon, daryo suvi, osh tuzi, havo, shakar.

4. 20,8 g xrom metalining elementining modda miqdorini hisoblang?

5.  $6,02 \cdot 10^{23}$  CH<sub>4</sub> metan molekulasining massasi qancha?

6. 0,25 mol miqdorida olingan temir oksidi (III) – Fe<sub>2</sub>O<sub>3</sub> ning massasi qancha?

7. Kimyogar reaksiya uchun 1 mol magniy olmoqchi edi. U uzoq vaqt Davriy jadvalga tikildi va keyin roppa-rosa 12 gramm magniyni tarozida tortib oldi. Kimyogar qanchaga xato qilgan?

8. Elementlarning valentliklaridan foydalanib birikmalarning formulasini yozing.

- a) kaliyni fluor bilan;                      b) kislorod bilan magniy;                      d) vodorod bilan kalsiy;  
e) fluorli alyuminiy;                      f) kislorod bilan alyuminiy.

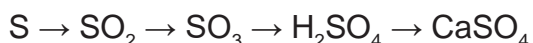
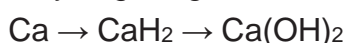
9. Birikmalarning tuzilish formulasini tuzing va har bir atomning valentligini aniqlang.

- a) HCl;                      b) BeCl<sub>2</sub>;  
c) AlBr<sub>3</sub>;                      d) PH<sub>3</sub>;                      e) TiCl<sub>4</sub>.

10. Xrom (III) va xrom (VI) ning kislorod bilan birikmalarining formulalarini yozing.

11. Oq qum SiO<sub>2</sub> tarkibidagi kislorodning massa ulushi qancha?

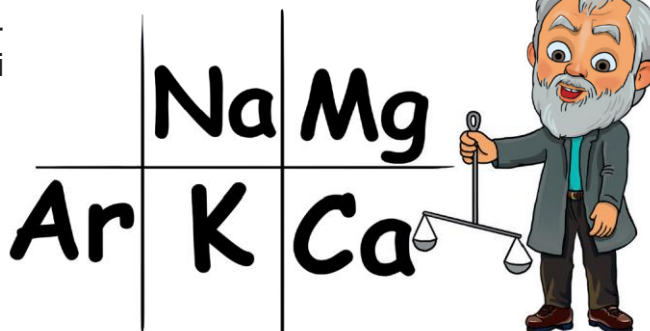
12. Quyidagi o'zgarishlar uchun reaksiya tenglamalarini yozing.

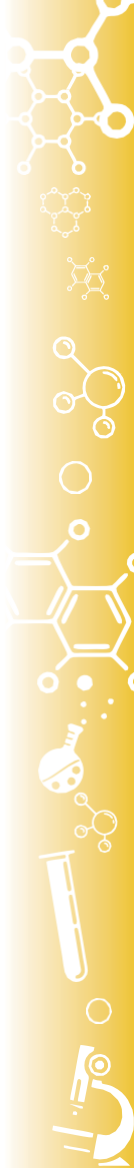


13. Quyidagi kimyoviy reaksiya tenglamalarida yetishmayotgan koeffitsiyentlarni toping.



14. 392 kg H<sub>3</sub>PO<sub>4</sub> fosfat kislotasini olish uchun qancha P<sub>2</sub>O<sub>5</sub> kerak?





Berilgan variantlardan to'g'ri javobni tanlang.

1. Fosforning kimyoviy belgisi:  
A) Po                      B) P                      C) Pt                      D) K
2. Quyidagilardan qaysi biri BaBr<sub>2</sub> ning to'g'ri nomi?  
A. Bor bromidi              B. Bariy bromid              C. Bariy dibromid              D. Bariy (I) bromidi
3. Alyuminiyning valentligi 3 ga, oltingugurtning valentligi 2 ga teng. Alyuminiy sulfidning kimyoviy formulasini toping?  
A. Al<sub>2</sub>S                      B. AlS<sub>3</sub>                      C. Al<sub>3</sub>S<sub>2</sub>                      D. Al<sub>2</sub>S<sub>3</sub>
4. Miqdoriy jihatdan 3N<sub>2</sub> formulasi qanday ifodalanadi?  
A. 3 atomli azot              B. 2 ta azot molekulasini              C. 3 ta azot molekulasini              D. Azotning 6 ta molekulasini
5. Temir (III) oksidi hosil bo'lishi uchun to'g'ri tenglashtirilgan kimyoviy tenglama qaysi?  
A.  $2\text{Fe} + \text{O}_2 \rightarrow 2\text{FeO}$                       B.  $3\text{Fe} + 2\text{O}_2 \rightarrow \text{Fe}_3\text{O}_4$   
C.  $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$                       D.  $\text{Fe} + \text{O} \rightarrow \text{FeO}$
6. SiH<sub>4</sub> tarkibidagi kremniyning (Si) valentligini toping.  
A. 1                      B. 2                      C. 3                      D. 4
7. dan tashqari quyidagi elementlarning barchasi diatomik molekular sifatida mavjud bo'lishi mumkin.  
A. Vodorod                      B. Kislorod                      C. Natriy                      D. Xlor
8. Natriyning lotincha nomi...  
A. Argentum                      B. Kalium                      C. Natrium                      D. Cuprum
9.  $\text{Ag} + \text{S} \rightarrow \text{Ag}_2\text{S}$  reaksiya tenglamasida kumush (Ag) oldidagi koeffitsient nechaga teng.  
A. 2                      B. 3                      C. 1                      D. 4
10. Reagent va tegishli kimyoviy reaksiyalar mahsulotlari o'rtasidagi moslikni toping. Javobingizni alifbodagi harflarga mos keladigan raqamlar ketma-ketligi sifatida bering.

Reagent	Reaksiya mahsuloti
a) $\text{H}_2 + \text{O}_2 \rightarrow$	1) $\text{CO}_2 + \text{H}_2\text{O}$
b) $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow$	2) $\text{H}_2\text{O}$
v) $\text{Al}(\text{OH})_3 + \text{H}_2\text{SO}_4 \rightarrow$	3) $\text{Ca}_3(\text{PO}_4)_2 + \text{NaNO}_3$
d) $\text{Ca}(\text{NO}_3)_2 + \text{Na}_3\text{PO}_4 \rightarrow$	4) $\text{Al}_2(\text{SO}_4)_3 + \text{H}_2\text{O}$

