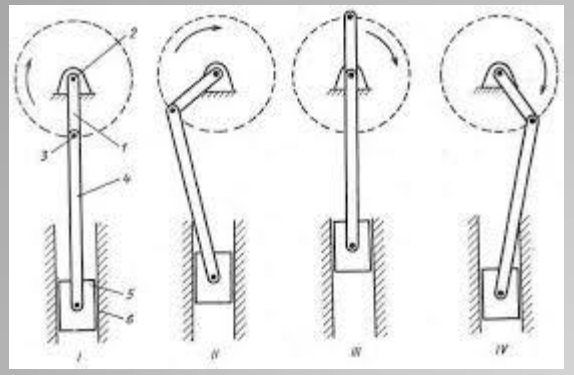
Ma’ruza №12

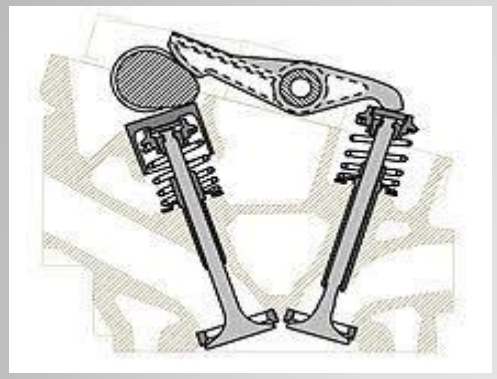
MEXANIZMLAR VA MASHINALAR NAZARIYASI. MEXANIZMLARNING ASOSIY TURLARI. KINEMATIK JUFTLAR KLASSIFIKATSIYASI.

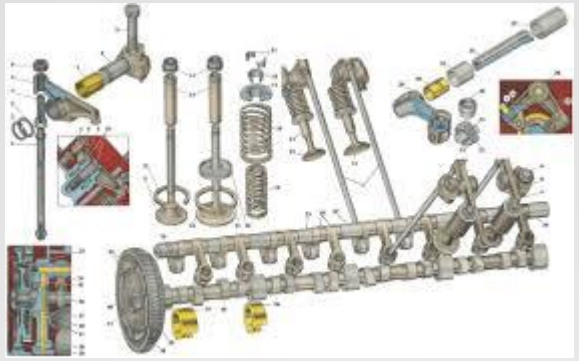
- Reja:

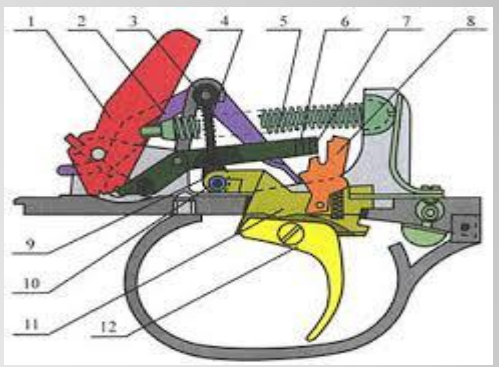
- Richagli mexanizmlar tuzilishi va bo’g’inlari
- Oily va quyi kinematik juftlar
- Kinematik juftlarning sinflari




Коленвал
Коренная шейка
Шатунная шейка
Поршень
Шатун
Палец
Поршневые кольца
Вкладыши
Компрессионное
Маслосъёмное






1
2
3
4
5
6
7
8
9
10
11
12

Kinematik juft

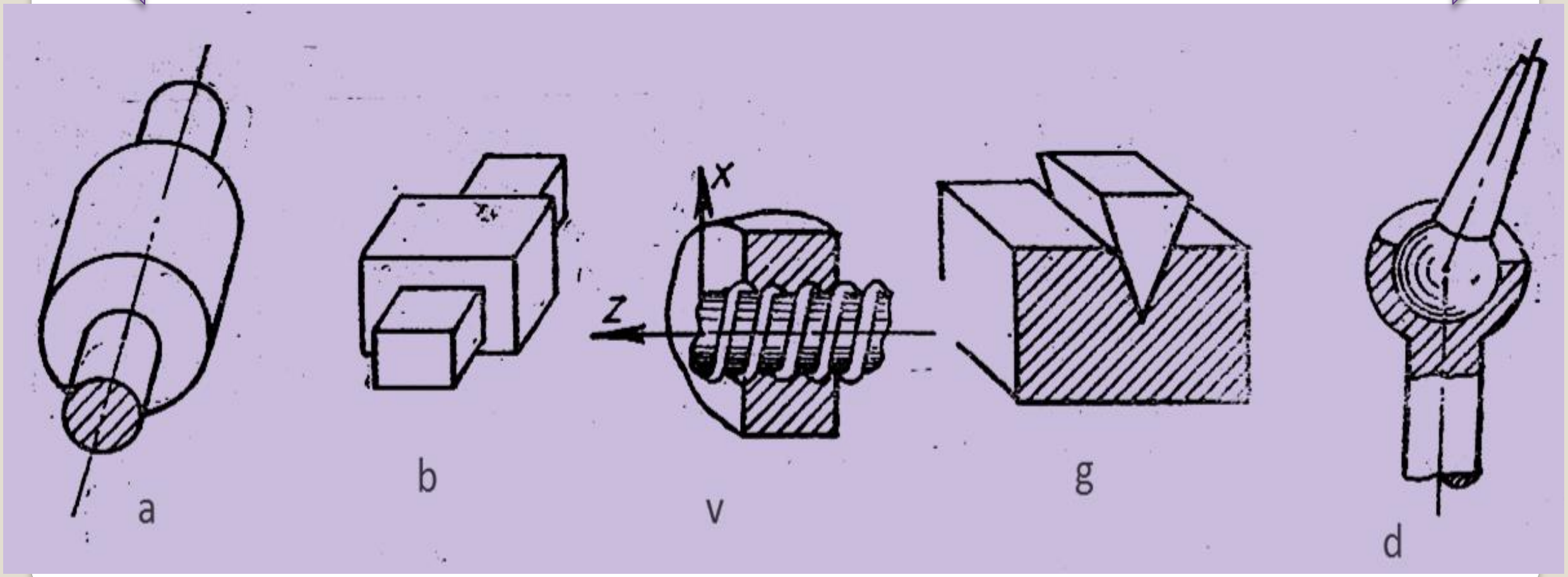
Quyi kinematik juft

Oliy kinematik juft

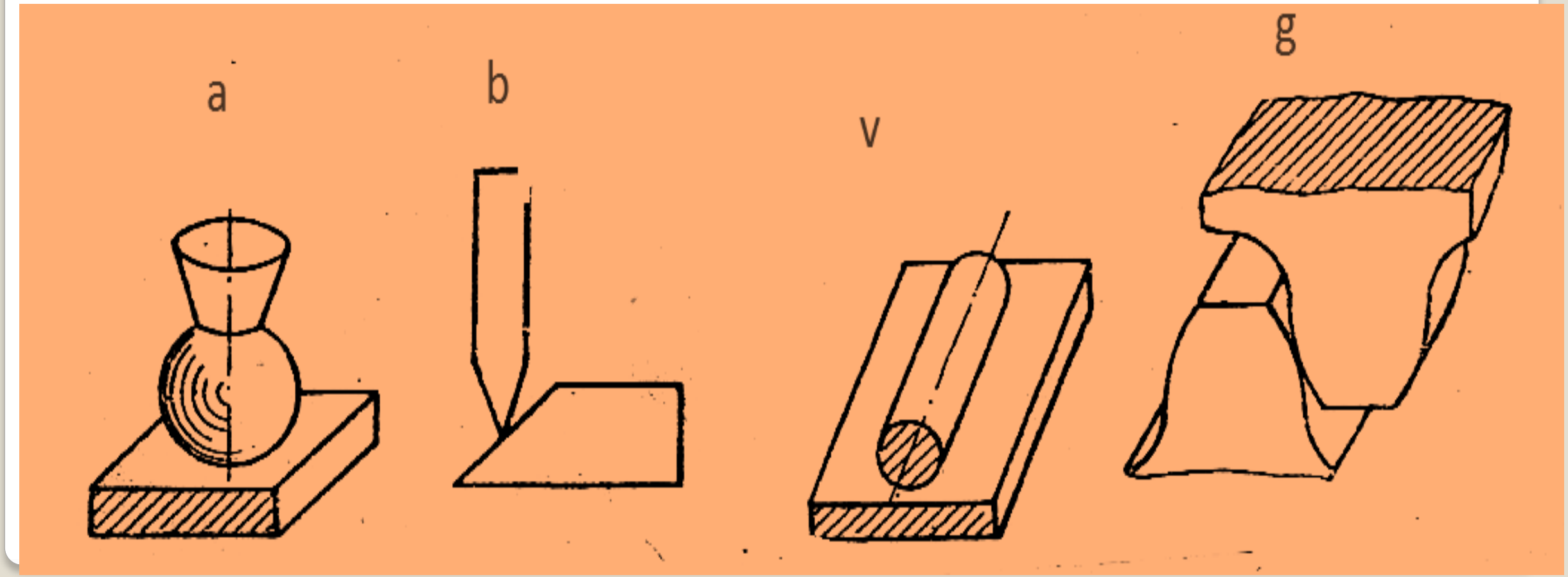
Agar bog’lanish elementi sirtdan iborat bo’lsa

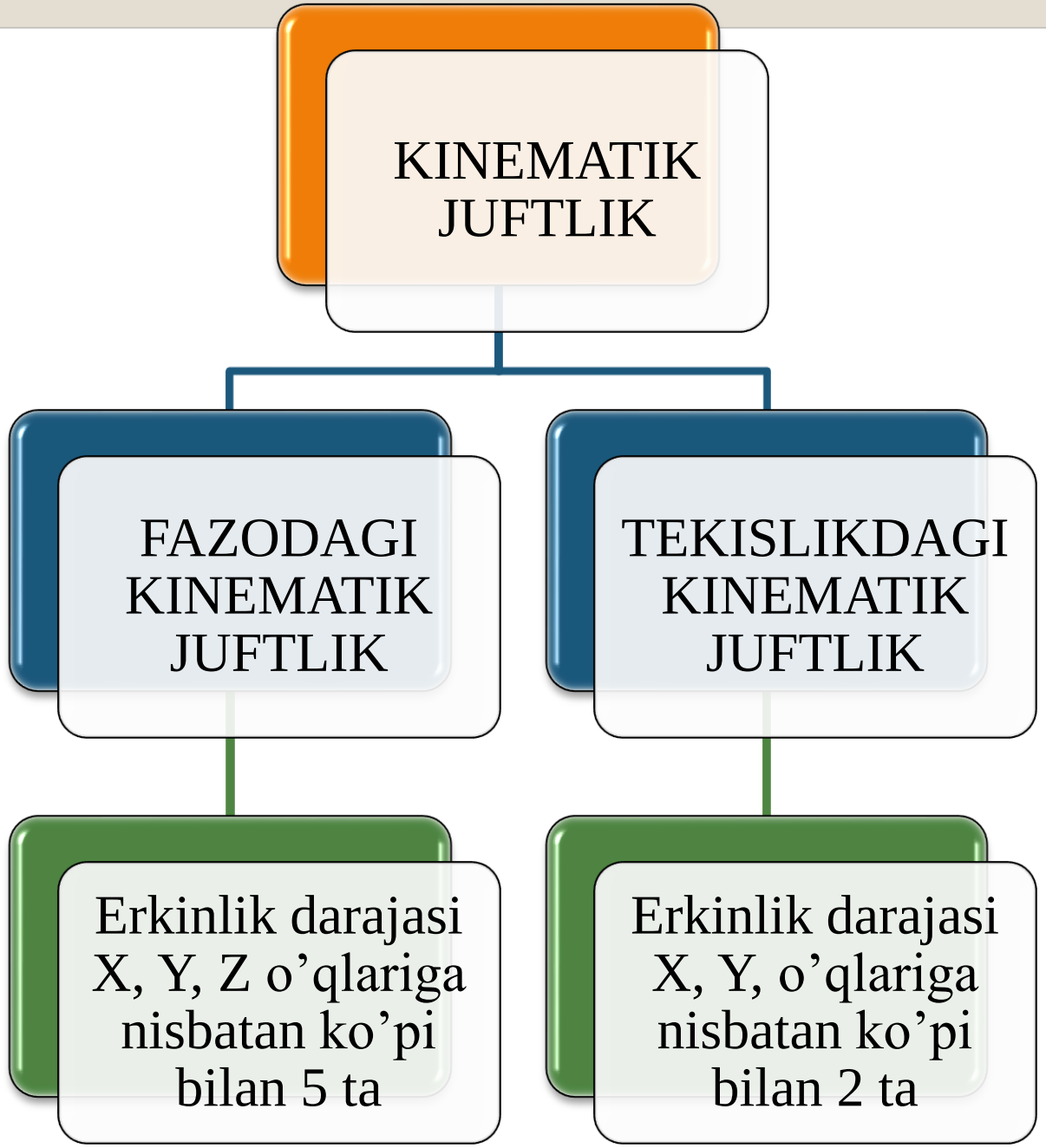
Agar bog’lanish elementi nuqta yoki chiziqdan iborat bo’lsa

Quyi kinematik juftlar



Oliy kinematik juftlar



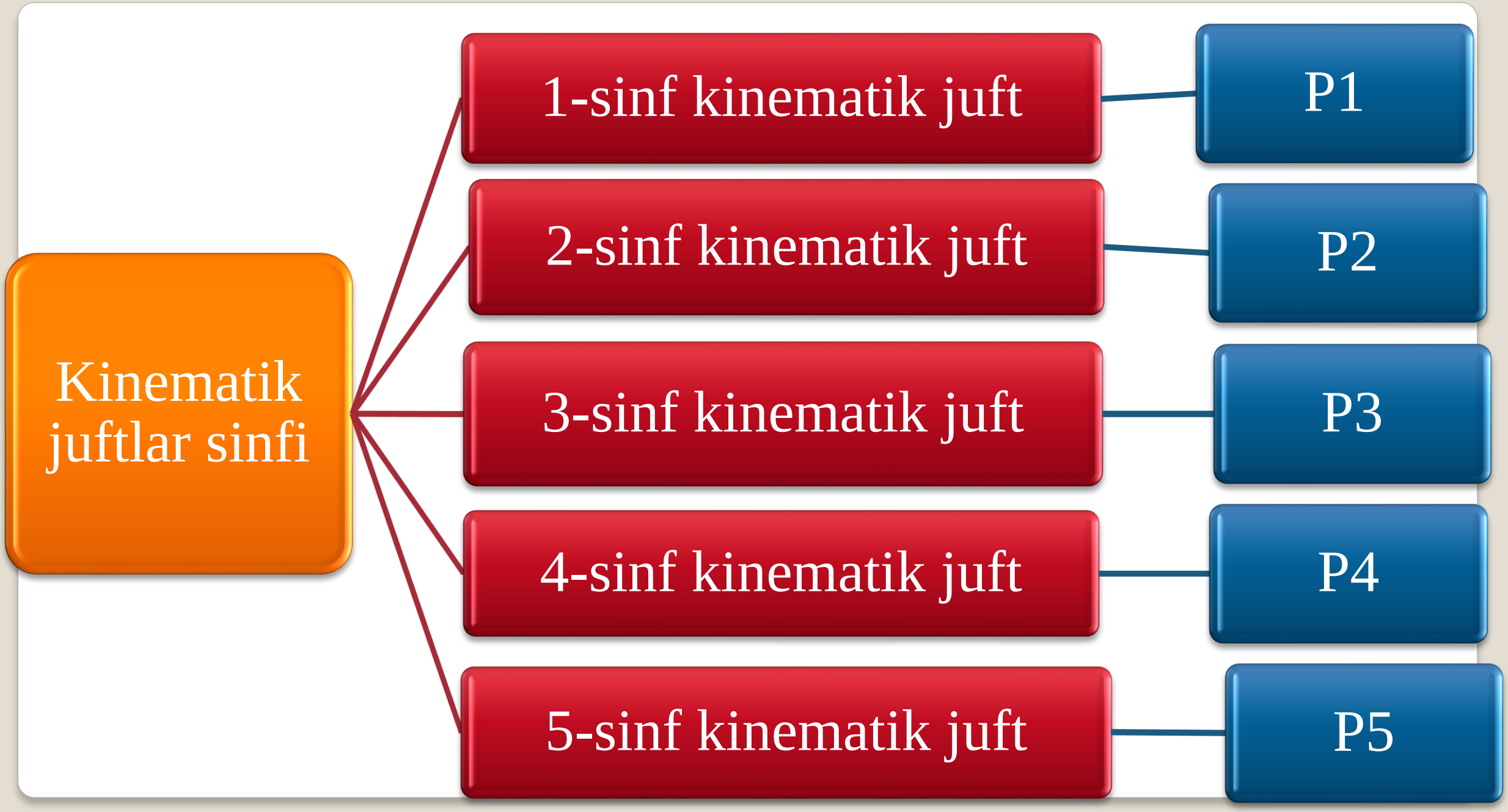

KINEMATIK JUFTLIK
FAZODAGI KINEMATIK JUFTLIK
TEKISLIKDAGI KINEMATIK JUFTLIK
Erkinlik darajasi X, Y, Z o’qlariga nisbatan ko’pi bilan 5 ta
Erkinlik darajasi X, Y, o’qlariga nisbatan ko’pi bilan 2 ta

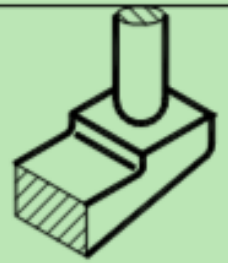
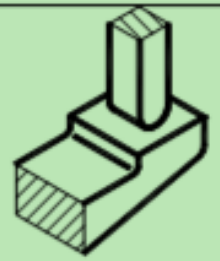
Kinematik juftlar, tarkibidagi bo’g’inlarning nisbiy harakatiga qo’yilgan soniga qarab, 5 ta sinfga bo’linadi.

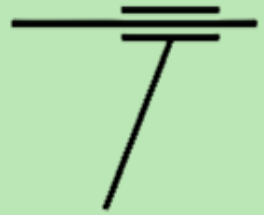
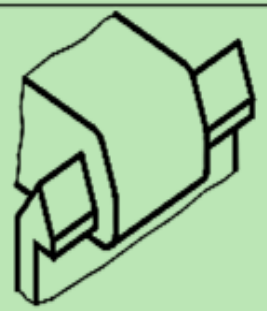
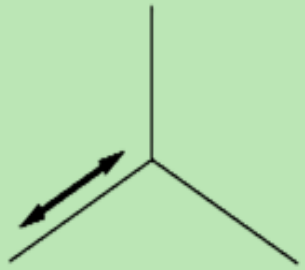
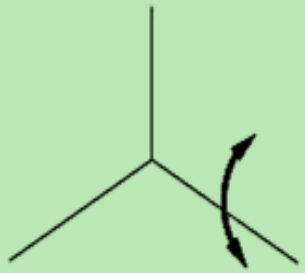
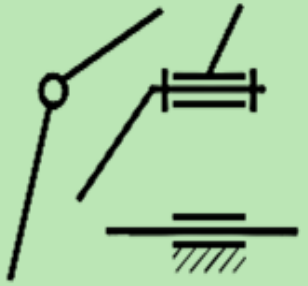
Bunda bog’lanishlar soni quyidagicha aniqlanadi.

$$C = 6 – H$$

H – bo’g’inning nisbiy harakatidagi erkinlik darajasi.


Kinematik juftlar sinfi
1-sinf kinematik juft
2-sinf kinematik juft
3-sinf kinematik juft
4-sinf kinematik juft
5-sinf kinematik juft
P1
P2
P3
P4
P5

Klass	Bog'lanish miqdori	Harakatchanlik miqdori	Kinematik juft nomi	Kinematik juftning ko'rinishi	Bir zvenoning ikkinchisiga nisbatan bo'lish mumkin bo'lgan harakatlar	Kinematik juftlarning sxematik ko'rinishi
I	1	5	Shar-tekislik			
II	2	4	Silindr-tekislik			
III	3	3	Sferik			

IV	4	2	Silindrik			
V	5	1	Ilgarilanuvchi			
V	5	1	Aylanuvchi			

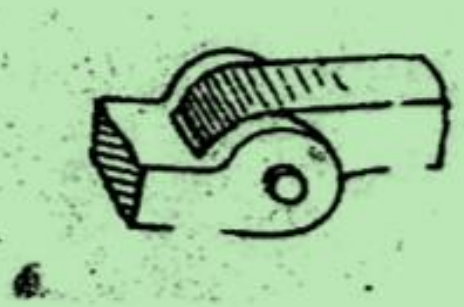
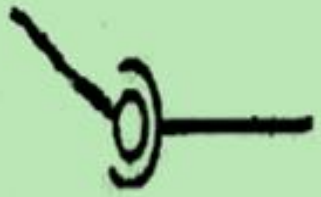
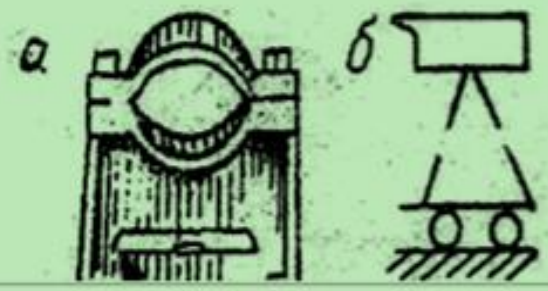
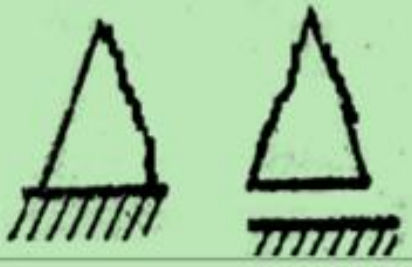
Shar-tekislik juftlik sinfini aniqlab ko’ramiz: H=5; S=6-5=1
Demak, 1 – sinf, oily kinematik juft ekan.

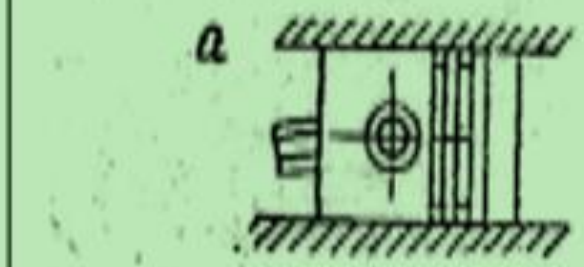
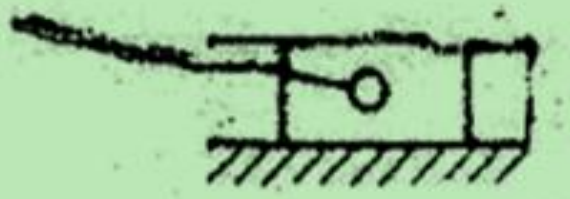
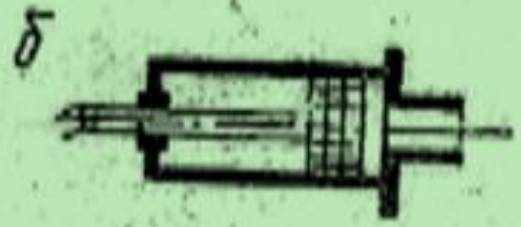
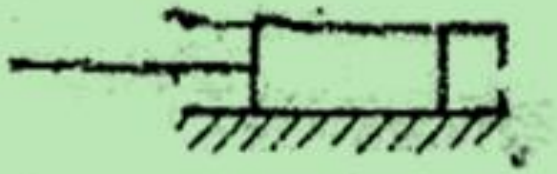
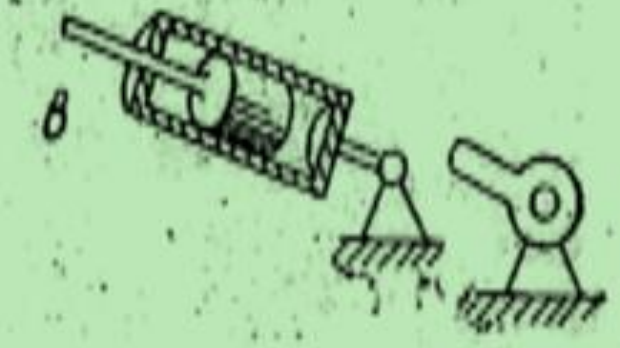
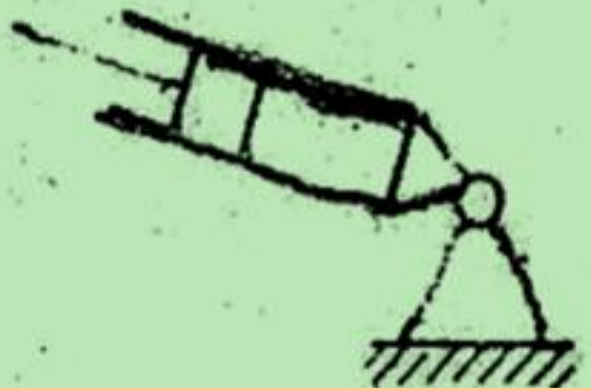
Slindr-tekis kinematik juftni sinfini aniqlab ko’ramiz: H=4; S=6-4=2
Demak, 2 – sinf, oily kinematik juft ekan.

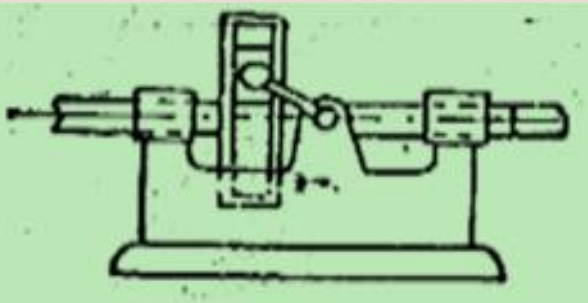
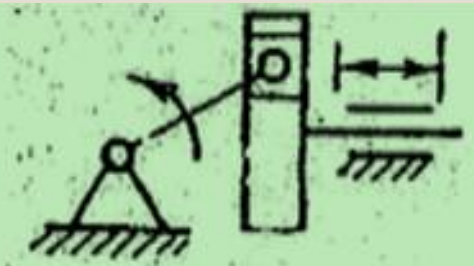
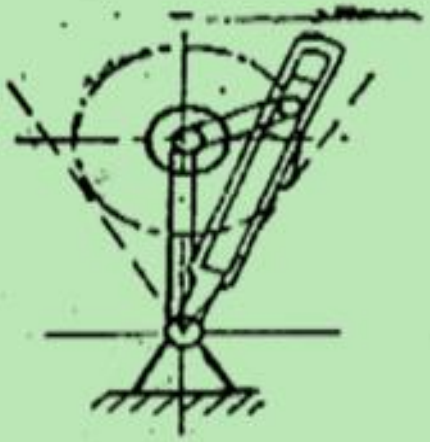
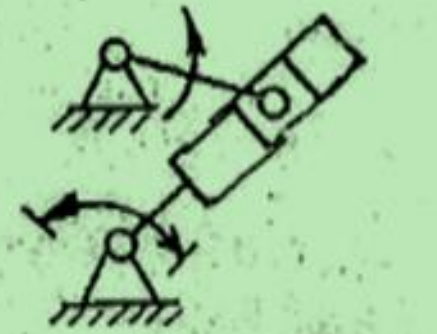
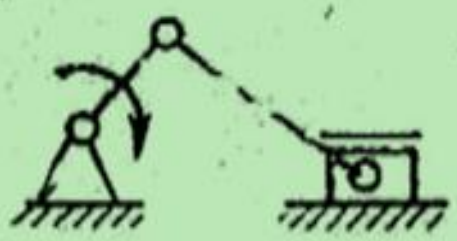
Ilgarilanma kinematik juftni sinfini aniqlab ko’ramiz: H=1; S=6-1=5
Demak, 5 – sinf, quyi kinematik juft ekan.

Kinematik sxemada ishlatiladigan shartli belgilar:

Nomi	Shakli	Shartli belgisi
Val, o’q, valik, sterjen, shatun va boshqalar		
Sterjenning qo’zg’almas qilib maxkamlanishi		
Sterjenning bikr qilib birlashtirilishi		

Sterjenning sharnir yordamida birlashtirilishi		
Sterjenning shar yordamida birlashtirilishi		
Sterjen uchun tayanch (sto’yka): a) qo’zg’almas		

Silindr p’rshn bilan qo’shilganda a) polzunning shatunga ulanishi		
b) polzunning shtokka ulanishi		
v) polzunning tebranma xarakatlanishi		

Ilgarilanma xarakatlanuvchi kulisali mexanizm		
Tebranma (burilma) xarakat qiluvchi kulisali mexanizm		
Krivoship polzunli exanizm		

Ilmli kishi hor bo’lmas.