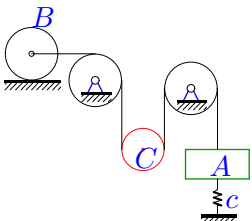


Простейшие колебания системы с 2 степенями свободы

Найти собственную частоту системы. В ответах даны инерционные коэффициенты и частота ω . Обобщенные координаты x и s — линейные перемещения точек ободов неподвижных цилиндров.

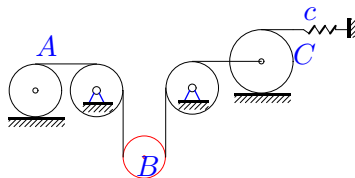
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.336.)

Задача 17.1.

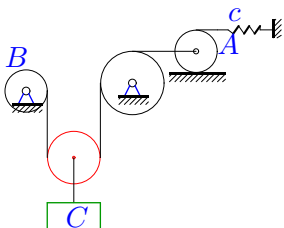


$m_B=6$ кг, $m_C=4$ кг, $m_A=4$ кг, $c=6$ Н/м.

Задача 17.2.

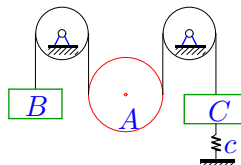

$$m_A=5 \text{ кг}, m_B=3 \text{ кг}, m_C=6 \text{ кг}, c=4 \text{ Н/м}.$$

Задача 17.3.

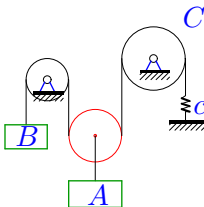


$m_B=5$ кг, $m_C=4$ кг, $m_A=6$ кг, $c=7$ Н/м.

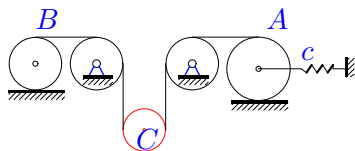
Задача 17.4.


$$m_B=3 \text{ кг}, m_A=5 \text{ кг}, m_C=4 \text{ кг}, c=4 \text{ Н/м}.$$

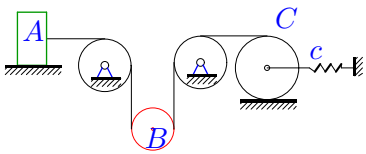
Задача 17.5.


$$m_B=2 \text{ кг}, m_A=3 \text{ кг}, m_C=5 \text{ кг}, c=2 \text{ Н/м}.$$

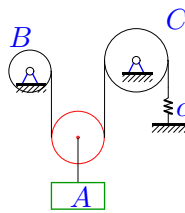
Задача 17.6.


$$m_B=7 \text{ кг}, m_C=5 \text{ кг}, m_A=8 \text{ кг}, c=6 \text{ Н/м}.$$

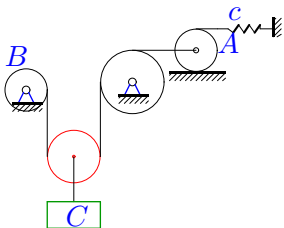
Задача 17.7.


$$m_A=6 \text{ кг}, m_B=4 \text{ кг}, m_C=7 \text{ кг}, c=4 \text{ Н/м}.$$

Задача 17.8.

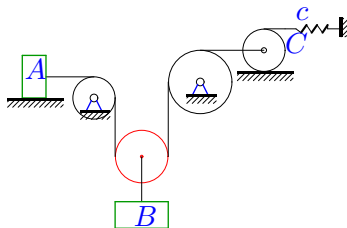

$$m_B=3 \text{ кг}, m_A=2 \text{ кг}, m_C=4 \text{ кг}, c=5 \text{ Н/м}.$$

Задача 17.9.



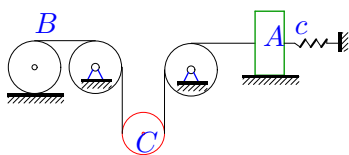
$m_B=4$ кг, $m_C=3$ кг, $m_A=5$ кг, $c=6$ Н/м.

Задача 17.10.


$$m_A=3 \text{ кг}, m_B=2 \text{ кг}, m_C=4 \text{ кг}, c=2 \text{ Н/м}.$$

Задача 17.11.

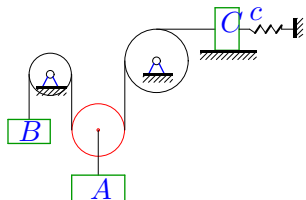
6



$$m_B = 5 \text{ кг}, m_C = 3 \text{ кг}, m_A = 6 \text{ кг}, c = 4 \text{ Н/м}.$$

Задача 17.13.

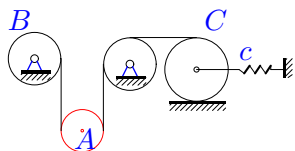
6



$$m_B = 2 \text{ кг}, m_A = 3 \text{ кг}, m_C = 5 \text{ кг}, c = 2 \text{ Н/м}.$$

Задача 17.15.

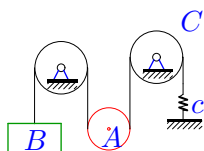
6



$$m_B = 4 \text{ кг}, m_A = 2 \text{ кг}, m_C = 5 \text{ кг}, c = 5 \text{ Н/м}.$$

Задача 17.17.

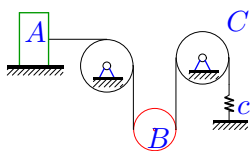
6



$$m_B = 3 \text{ кг}, m_A = 5 \text{ кг}, m_C = 8 \text{ кг}, c = 4 \text{ Н/м}.$$

Задача 17.19.

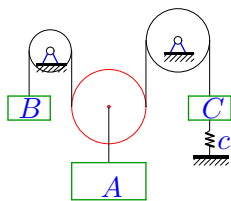
6



$$m_A = 7 \text{ кг}, m_B = 5 \text{ кг}, m_C = 8 \text{ кг}, c = 5 \text{ Н/м}.$$

Задача 17.21.

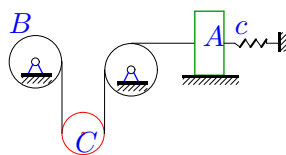
6



$$m_B = 2 \text{ кг}, m_A = 3 \text{ кг}, m_C = 3 \text{ кг}, c = 2 \text{ Н/м}.$$

Задача 17.12.

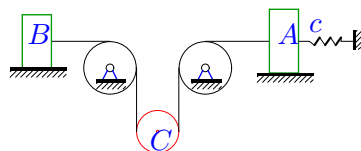
6



$$m_B = 4 \text{ кг}, m_C = 2 \text{ кг}, m_A = 5 \text{ кг}, c = 5 \text{ Н/м}.$$

Задача 17.14.

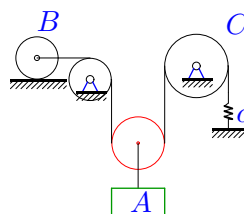
6



$$m_B = 4 \text{ кг}, m_C = 2 \text{ кг}, m_A = 5 \text{ кг}, c = 2 \text{ Н/м}.$$

Задача 17.16.

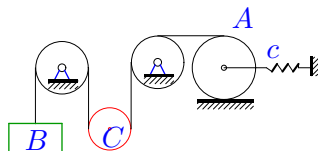
6



$$m_B = 3 \text{ кг}, m_A = 2 \text{ кг}, m_C = 4 \text{ кг}, c = 4 \text{ Н/м}.$$

Задача 17.18.

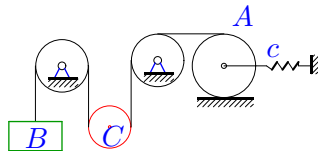
6



$$m_B = 3 \text{ кг}, m_C = 4 \text{ кг}, m_A = 7 \text{ кг}, c = 3 \text{ Н/м}.$$

Задача 17.20.

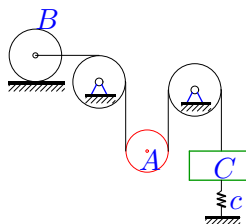
6



$$m_B = 3 \text{ кг}, m_C = 4 \text{ кг}, m_A = 7 \text{ кг}, c = 3 \text{ Н/м}.$$

Задача 17.22.

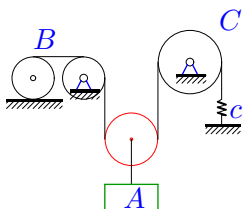
6



$$m_B = 6 \text{ кг}, m_A = 4 \text{ кг}, m_C = 4 \text{ кг}, c = 6 \text{ Н/м}.$$

Задача 17.23.

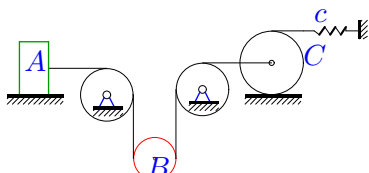
6



$m_B=3$ кг, $m_A=2$ кг, $m_C=4$ кг, $c=3$ Н/м.

Задача 17.25.

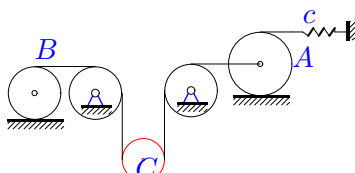
6



$m_A=4$ кг, $m_B=2$ кг, $m_C=5$ кг, $c=2$ Н/м.

Задача 17.27.

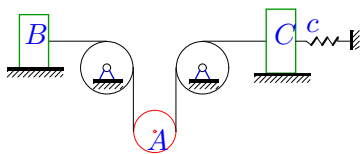
6



$m_B=5$ кг, $m_C=3$ кг, $m_A=6$ кг, $c=4$ Н/м.

Задача 17.29.

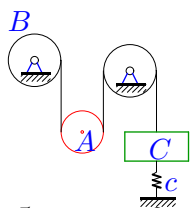
6



$m_B=5$ кг, $m_A=3$ кг, $m_C=6$ кг, $c=3$ Н/м.

Задача 17.31.

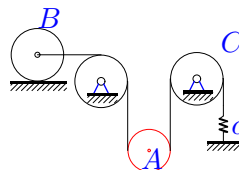
6



$m_B=5$ кг, $m_A=3$ кг, $m_C=3$ кг, $c=6$ Н/м.

Задача 17.24.

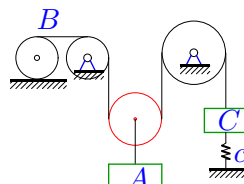
6



$m_B=4$ кг, $m_A=2$ кг, $m_C=5$ кг, $c=4$ Н/м.

Задача 17.26.

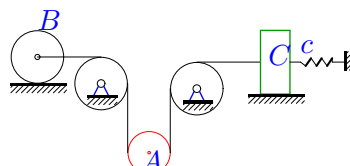
6



$m_B=3$ кг, $m_A=2$ кг, $m_C=3$ кг, $c=3$ Н/м.

Задача 17.28.

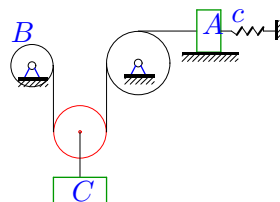
6



$m_B=5$ кг, $m_A=3$ кг, $m_C=6$ кг, $c=5$ Н/м.

Задача 17.30.

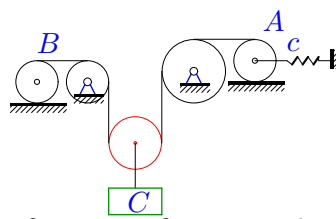
6



$m_B=6$ кг, $m_C=5$ кг, $m_A=7$ кг, $c=8$ Н/м.

Задача 17.32.

6



$m_B=3$ кг, $m_C=2$ кг, $m_A=4$ кг, $c=3$ Н/м.

Простейшие колебания системы с 2 степенями свободы

	a_{xx}	a_{xs}	a_{ss}	ω
1	10.500	0.500	5.500	1.0467
2	3.000	0.375	10.125	1.2600
3	3.500	1.000	10.000	1.6977
4	4.875	0.625	5.875	0.8308
5	2.750	0.750	3.250	0.8104
6	4.500	0.625	4.875	0.5597
7	7.500	0.500	4.125	0.4944
8	2.000	0.500	2.500	1.4510
9	2.750	0.750	8.250	1.7272
10	3.500	0.500	6.500	1.1155
11	3.000	0.375	7.125	0.7517
12	2.750	0.250	5.750	0.9344
13	2.750	0.750	5.750	0.6005
14	4.750	0.250	5.750	0.5904
15	2.750	0.250	2.625	0.6931
16	5.000	0.500	2.500	1.2778
17	4.875	0.625	5.875	0.8308
18	4.500	0.500	4.125	0.4293
19	8.875	0.625	5.875	0.9260
20	4.500	0.500	4.125	0.4293
21	2.750	0.750	3.750	0.7511
22	10.500	0.500	5.500	1.0467
23	1.625	0.500	2.500	1.1308
24	6.750	0.250	3.250	1.1110
25	4.750	0.250	8.250	0.9855
26	1.625	0.500	3.500	0.9469
27	3.000	0.375	10.125	1.2600
28	8.625	0.375	7.125	0.8387
29	6.125	0.375	7.125	0.6499
30	4.250	1.250	8.250	1.0074
31	3.625	0.375	4.125	1.2118
32	1.625	0.500	2.000	0.6374