

Samarqand davlat universitetning Kattaqo'rg'on filiali Aniq va tabiiy fanlar fakulteti 3-kurs Axborot tizimlari va texnologiyalari (tarmoqlar va sohalar bo'yicha) yo'nalishi Kompyuter vositasida modellash tirish yakuniy nazorat savollar

Imtihon shakli: Amaliy

Savolning tartib raqami (1-120)	Savolning qiyinlik darajasi	Savolning qanday mashg'ulotga tegishliligi	Mavzu Nomeri	Savol matni
1.	1	2	1	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(1.88 + 2.127) \times 0.01875}{0.625 - \frac{13}{18} \div 3.13} + 8.29$
2.	1	2	1	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(12\frac{1}{6} - 6\frac{1}{27} - 5.25) * 13.5 + 0.111}{0.02}$
3.	1	2	2	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(1\frac{1}{12} + 2\frac{5}{32} + \frac{1}{24}) : 9.6 + 0.13}{0.0004}$
4.	1	2	2	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(6.6 - 3\frac{3}{14}) * 5\frac{5}{6}}{(21 - 1.25) : 2.5}$
5.	2	2	2	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{2.625 - \frac{2}{3} * 2\frac{5}{14}}{(3\frac{1}{12} + 4.375) : 19\frac{8}{9}}$
6.	3	2	3	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang:

				$\frac{0.134 + 0.05}{18\frac{1}{6} - 1\frac{11}{14} - \frac{1}{24} * 2\frac{6}{7}}$
7.	2	2	3	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(58\frac{4}{15} - 56\frac{7}{24}) : 0.8 + 2\frac{1}{9} * 0.225}{8.75 * 0.6}$
8.	1	2	3	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(\frac{0.216}{0.15} + 0.56) : 0.5}{(7.7 : 24.75 + \frac{2}{15}) * 4.5}$
9.	1	2	4	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{1\frac{4}{11} * 0.22 : 0.3 - 0.96}{(0.2 - \frac{3}{40}) * 1.6}$
10.	1	2	4	Arifmetik ifoda qiymatini Simulink muhitida modelini yarating va hisoblang: $\frac{(\frac{3}{5} + 0.425 - 0.005) : 0.11}{30.5 + \frac{1}{6} + 3\frac{1}{3}}$
11.	3	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $2x^3 - 2x - 1 = 0$
12.	3	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 - x + 7 = 0$
13.	2	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $2x^3 - 2x^2 + 3x + 1 = 0$
14.	2	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 - 3x^2 + 2x - 4 = 0$
15.	2	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 + 2x^2 + 5x + 2 = 0$
16.	2	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 - 2x^2 + 7x - 1 = 0$
17.	2	2	13	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $\ln x + x + 1 = 0$
18.	2	2	14	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 - 3x^2 + 6x + 2 = 0$

19.	2	2	14	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x \cdot (x+1)^2 = 2$
20.	2	2	14	Quyida berilgan tenglamani hisoblash uchun Simulink muhitida modelini yarating va hisoblang: $x^3 - 3x^2 + 7x + 1 = 0$
21.	2	3	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli yarating: $\begin{cases} 2 * x_1 + 0.1 * x_2 - 0.05 * x_3 = 10 \\ 0.06 * x_1 - 2.5 * x_2 + 0.3 * x_3 = 12 \\ 0.02 * x_1 - 0.3 * x_2 + 4 * x_3 = 15 \end{cases}$
22.	2	3	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\text{yarating: } \left. \begin{aligned} 1,4x_1 + 0,3x_2 - 0,4x_3 + 0,9x_4 &= 1,3, \\ 0,6x_1 - 0,4x_2 + 1,3x_3 - 0,6x_4 &= -0,4, \\ 0,8x_1 - 2,2x_2 - 0,5x_3 + 0,5x_4 &= 0,6, \\ 0,3x_1 + 1,4x_2 + 0,6x_3 - 1,3x_4 &= 0,9. \end{aligned} \right\}$
23.	3	3	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\text{yarating: } \left. \begin{aligned} 7,5x_1 - 2,4x_2 + 4,1x_3 + 1,2x_4 &= 9,9, \\ 7,1x_1 + 2,7x_2 - 1,4x_3 + 1,4x_4 &= 6,9, \\ -1,8x_1 - x_2 + 4,3x_3 + 1,3x_4 &= 7,9, \\ 1,5x_1 - 3,4x_2 + 7,8x_3 - 1,8x_4 &= 15,1. \end{aligned} \right\}$
24.	2	2	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\text{yarating: } \left. \begin{aligned} -3,1x_1 + 2x_2 - 4x_3 + 5x_4 &= 4,9, \\ 2x_1 - x_2 + x_3 + 1,2x_4 &= -9,7, \\ x_1 - 3x_2 - 2x_3 + 2,7x_4 &= 13,1, \\ 5x_1 - x_2 + 3x_3 + 7,8x_4 &= 10,6. \end{aligned} \right\}$
25.	3	2	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\text{yarating: } \left. \begin{aligned} 2,6x_1 - 3,1x_2 + 3,4x_3 + 2,5x_4 &= 3,5, \\ 6,6x_1 + 9,9x_2 - 2,3x_3 - 0,1x_4 &= -4,3, \\ 10,1x_1 + 3,2x_2 - 3,7x_3 - 2,8x_4 &= 3,8, \\ 8,9x_1 + 6,4x_2 + 1,1x_3 + 3,9x_4 &= -7,8. \end{aligned} \right\}$
26.	3	2	10	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli

				$\left. \begin{aligned} 3,5x_1 + 0,2x_2 + 3,8x_3 - 0,3x_4 &= 0,8, \\ 4,5x_1 + 2,1x_2 - 0,1x_3 - 0,2x_4 &= 1,1, \\ -2,1x_1 + 3,2x_2 + 0,2x_3 - 0,2x_4 &= 0,2, \\ 3,2x_1 + 1,8x_2 - 3,2x_3 + 0,2x_4 &= 0,1.. \end{aligned} \right\}$ yarating:
27.	3	2	11	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\left. \begin{aligned} 1,1x_1 + 2,3x_2 + 5,5x_3 + 2,3x_4 &= 7,9, \\ 3,3x_1 + 1,3x_2 + 1,8x_3 + 3,1x_4 &= 2,6, \\ 2,6x_1 + 4,3x_2 + 1,1x_3 + 1,7x_4 &= 10,6, \\ 1,1x_1 + 3,8x_2 + 2,9x_3 + 2,7x_4 &= 9,3. \end{aligned} \right\}$ yarating:
28.	2	2	11	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\left. \begin{aligned} 1,3x_1 + 3,2x_2 + 2,1x_3 + 3,3x_4 &= 1,9, \\ 3,5x_1 - 4,1x_2 - 5,3x_3 - 2,5x_4 &= -4,7, \\ 2,8x_1 + 3,5x_2 - 7,6x_3 - 4,9x_4 &= -6,7, \\ 1,4x_1 + 2,8x_2 + 3,9x_3 - 1,8x_4 &= -4,8. \end{aligned} \right\}$ yarating:
29.	3	3	11	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\left. \begin{aligned} 0,2x_1 + 0,8x_2 - 0,1x_3 + 0,2x_4 &= 0,1, \\ 0,8x_1 + 1,1x_2 + 0,1x_3 + 1,1x_4 &= 2,3, \\ -0,3x_1 + 0,1x_2 + 3,0x_3 - 2,0x_4 &= 0,1, \\ 0,1x_1 + 1,1x_2 + 1,1x_3 - 1,3x_4 &= 0,2. \end{aligned} \right\}$ yarating:
30.	2	3	11	Quyida berilgan Chiziqli algebraik tenglamalar sistemasining yechimlarini Simulink muhitida hisoblash modeli $\left. \begin{aligned} 1,1x_1 + 1,3x_2 - 6,3x_3 - 4,5x_4 &= 6,3, \\ 3,9x_1 - 0,7x_2 - 6,8x_3 - 4,7x_4 &= 2,7, \\ 2,8x_1 + 3,3x_2 + 9,1x_3 + 2,8x_4 &= 6,9, \\ 3,1x_1 + 2,7x_2 + 3,4x_3 - 8,1x_4 &= -7,1. \end{aligned} \right\}$ yarating:
31.	2	3	11	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini yarating: $\left. \begin{aligned} 1,1x_1 + 2,3x_2 + 5,5x_3 + 2,3x_4 &= 7,9, \\ 3,3x_1 + 1,3x_2 + 1,8x_3 + 3,1x_4 &= 2,6, \\ 2,6x_1 + 4,3x_2 + 1,1x_3 + 1,7x_4 &= 10,6, \\ 1,1x_1 + 3,8x_2 + 2,9x_3 + 2,7x_4 &= 9,3. \end{aligned} \right\}$
32.	3	3	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini

				$\left. \begin{aligned} 1,4x_1 + 0,3x_2 - 0,4x_3 + 0,9x_4 &= 1,3, \\ 0,6x_1 - 0,4x_2 + 1,3x_3 - 0,6x_4 &= -0,4, \\ 0,8x_1 - 2,2x_2 - 0,5x_3 + 0,5x_4 &= 0,6, \\ 0,3x_1 + 1,4x_2 + 0,6x_3 - 1,3x_4 &= 0,9. \end{aligned} \right\}$ yarating:
33.	3	3	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 7,5x_1 - 2,4x_2 + 4,1x_3 + 1,2x_4 &= 9,9, \\ 7,1x_1 + 2,7x_2 - 1,4x_3 + 1,4x_4 &= 6,9, \\ -1,8x_1 - x_2 + 4,3x_3 + 1,3x_4 &= 7,9, \\ 1,5x_1 - 3,4x_2 + 7,8x_3 - 1,8x_4 &= 15,1. \end{aligned} \right\}$ yarating:
34.	3	3	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} -3,1x_1 + 2x_2 - 4x_3 + 5x_4 &= 4,9, \\ 2x_1 - x_2 + x_3 + 1,2x_4 &= -9,7, \\ x_1 - 3x_2 - 2x_3 + 2,7x_4 &= 13,1, \\ 5x_1 - x_2 + 3x_3 + 7,8x_4 &= 10,6. \end{aligned} \right\}$ yarating:
35.	3	2	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 2,6x_1 - 3,1x_2 + 3,4x_3 + 2,5x_4 &= 3,5, \\ 6,6x_1 + 9,9x_2 - 2,3x_3 - 0,1x_4 &= -4,3, \\ 10,1x_1 + 3,2x_2 - 3,7x_3 - 2,8x_4 &= 3,8, \\ 8,9x_1 + 6,4x_2 + 1,1x_3 + 3,9x_4 &= -7,8. \end{aligned} \right\}$ yarating:
36.	3	2	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 3,5x_1 + 0,2x_2 + 3,8x_3 - 0,3x_4 &= 0,8, \\ 4,5x_1 + 2,1x_2 - 0,1x_3 - 0,2x_4 &= 1,1, \\ -2,1x_1 + 3,2x_2 + 0,2x_3 - 0,2x_4 &= 0,2, \\ 3,2x_1 + 1,8x_2 - 3,2x_3 + 0,2x_4 &= 0,1.. \end{aligned} \right\}$ yarating:
37.	3	2	12	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini yarating: $\begin{cases} 2 * x1 + 0.1 * x2 - 0.05 * x3 = 10 \\ 0.06 * x1 - 2.5 * x2 + 0.3 * x3 = 12 \\ 0.02 * x1 - 0.3 * x2 + 4 * x3 = 15 \end{cases}$
38.	2	2	12	Quyida berilgan Chiziqli algebraik tenglamalar Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini

				$\left. \begin{aligned} 1,3x_1 + 3,2x_2 + 2,1x_3 + 3,3x_4 &= 1,9, \\ 3,5x_1 - 4,1x_2 - 5,3x_3 - 2,5x_4 &= -4,7, \\ 2,8x_1 + 3,5x_2 - 7,6x_3 - 4,9x_4 &= -6,7, \\ 1,4x_1 + 2,8x_2 + 3,9x_3 - 1,8x_4 &= -4,8. \end{aligned} \right\}$ yarating:
39.	2	2	7	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 0,2x_1 + 0,8x_2 - 0,1x_3 + 0,2x_4 &= 0,1, \\ 0,8x_1 + 1,1x_2 + 0,1x_3 + 1,1x_4 &= 2,3, \\ -0,3x_1 + 0,1x_2 + 3,0x_3 - 2,0x_4 &= 0,1, \\ 0,1x_1 + 1,1x_2 + 1,1x_3 - 1,3x_4 &= 0,2. \end{aligned} \right\}$ yarating:
40.	3	2	7	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 1,1x_1 + 1,3x_2 - 6,3x_3 - 4,5x_4 &= 6,3, \\ 3,9x_1 - 0,7x_2 - 6,8x_3 - 4,7x_4 &= 2,7, \\ 2,8x_1 + 3,3x_2 + 9,1x_3 + 2,8x_4 &= 6,9, \\ 3,1x_1 + 2,7x_2 + 3,4x_3 - 8,1x_4 &= -7,1. \end{aligned} \right\}$ yarating:
41.	2	2	7	Avtomatik hisoblash blok orqali algebraik tenglamalar sistemasining yechimlarini hisoblash Simulink modelini $\left. \begin{aligned} 1,4x_1 + 0,3x_2 - 0,4x_3 + 0,9x_4 &= 1,3, \\ 0,6x_1 - 0,4x_2 + 1,3x_3 - 0,6x_4 &= -0,4, \\ 0,8x_1 - 2,2x_2 - 0,5x_3 + 0,5x_4 &= 0,6, \\ 0,3x_1 + 1,4x_2 + 0,6x_3 - 1,3x_4 &= 0,9. \end{aligned} \right\}$ yarating:
42.	2	3	13	Quyida berilgan funksiyaning grafigini Simulink muhitida chizing: $y = x^2 - 2x + 3$
43.	1	3	13	Quyida berilgan funksiyaning grafigini Simulink muhitida chizing: $y = 3x^3 + \frac{2}{3}x$
44.	1	3	13	Quyida berilgan funksiyaning grafigini Simulink muhitida chizing: $y = 3x^{\frac{2}{3}} - x + 3$
45.	1	2	13	Quyida berilgan funksiyaning grafigini Simulink muhitida chizing: $y = \sqrt{x^2 - 5x}$
46.	2	2	13	Simulink muhitida matritsaning determenantini hisoblash modelini yarating: $A = \begin{pmatrix} 2 & 3 \\ 5 & -7 \end{pmatrix}$
47.	2	2	14	Simulink muhitida matritsaning determenantini hisoblash modelini yarating:

				$B = \begin{pmatrix} -2 & \frac{2}{3} \\ 5 & \frac{1}{7} \end{pmatrix}$
48.	2	2	14	Simulink muhitida $A+B$ ni hisoblang: $A = \begin{pmatrix} 2 & 3 \\ 5 & -7 \end{pmatrix}, B = \begin{pmatrix} 8 & -3 \\ 5 & -7 \end{pmatrix}$
49.	2	2	14	Simulink muhitida $A-B$ ni hisoblang: $A = \begin{pmatrix} 2 & 3 \\ 5 & -7 \end{pmatrix}, B = \begin{pmatrix} 8 & -3 \\ 5 & -7 \end{pmatrix}$
50.	2	2	14	Simulink muhitida $B \cdot A$ ni hisoblang: $A = \begin{pmatrix} \frac{1}{2} & 3 \\ 5 & -7 \end{pmatrix}, B = \begin{pmatrix} -8 & 9 \\ 7 & 3 \end{pmatrix}$
51.	2	2	14	Simulink muhitida A^{-1} ni hisoblang: $A = \begin{pmatrix} \frac{1}{2} & 3 \\ 5 & -7 \end{pmatrix}$
52.	3	2	14	Simulink muhitida B^T ni hisoblang: $B = \begin{pmatrix} -8 & 9 \\ 7 & 3 \end{pmatrix}$
53.	3	2	15	Simulink muhitida $A-B$ ni hisoblang: $A = \begin{pmatrix} 1 & -3 \\ 0 & 7 \end{pmatrix}, B = \begin{pmatrix} 1 & 0 \\ 2 & -1 \end{pmatrix}$
54.	3	2	15	Simulink muhitida $A+B$ ni hisoblang: $A = \begin{pmatrix} 1 & -3 \\ 0 & 7 \end{pmatrix}, B = \begin{pmatrix} \frac{1}{2} & -5 \\ \frac{2}{3} & -1 \end{pmatrix}$
55.	2	2	15	Simulink muhitida $5 \cdot A$ ni hisoblang: $A = \begin{pmatrix} 0 & 0 \\ -1 & 7 \end{pmatrix}$
56.	2	2	15	Simulink muhitida $0,5 \cdot A$ ni hisoblang: $A = \begin{pmatrix} 1 & -1 \\ -1 & 6 \end{pmatrix}$
57.	2	2	15	Simulink muhitida $B \cdot A$ ni hisoblang: $A = \begin{pmatrix} 1 \\ 2 \end{pmatrix}, B = (3 \ 4)$
58.	2	2	15	Simulink muhitida $A \cdot B$ ni hisoblang:

				$A = \begin{pmatrix} 1 \\ 2 \end{pmatrix}, B = (3 \ 4)$
59.	2	3	15	Quyida berilgan chiziqsiz tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $e^{x+2} - 10x + 2 = 0$
60.	2	3	15	Quyida berilgan chiziqsiz tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $2\ln x - 10x + 2 = 0$
61.	2	3	8	Quyida berilgan chiziqsiz tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $\sin x - x + 1 = 0$
62.	2	3	8	Quyida berilgan chiziqsiz tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $\sin x - 2\cos x = 0$
63.	2	2	8	Quyida berilgan chiziqsiz tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $\sin x - 2\operatorname{tg}x = 0$
64.	2	3	8	Simulink muhitida $\frac{1}{8} \cdot A$ ni hisoblang: $A = \begin{pmatrix} 1 & -1 \\ -1 & 6 \end{pmatrix}$
65.	2	3	8	Simulink muhitida B^T ni hisoblang: $B = \begin{pmatrix} -\frac{1}{8} & -1 \\ -3 & 3 \end{pmatrix}$
66.	3	2	8	Simulink muhitida C^T ni hisoblang: $C = \begin{pmatrix} -1 & -1 \\ \frac{1}{3} & \frac{-2}{3} \end{pmatrix}$
67.	1	2	5	Quyida berilgan ifodaning yechimini Simulink muhitida hisoblash modelini yarating: $T = \frac{n_0 l h}{Q} (1 / \operatorname{sh}(\frac{2\pi d}{l}) [dch(\frac{2\pi d}{l}) - \frac{l}{2\pi} \operatorname{sh}(\frac{2\pi d}{l})])$
68.	1	2	5	Quyida berilgan integral tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $P = \frac{n_0 l h}{K} (1 * \operatorname{sh}(\frac{2\pi d}{l}) [dch(\frac{2\pi d}{l}) - \frac{l}{2\pi} \operatorname{sh}(\frac{2\pi d}{l})])$
69.	1	2	5	Quyida berilgan integral tenglamaning yechimini Simulink muhitida hisoblash modelini yarating:

				$P = \frac{n_0 h}{K} (1 * sh(\frac{2\pi d}{Q}) [d(\frac{2\pi d}{l}) - \frac{l}{2\pi}(\frac{2\pi d}{l})])$
70.	1	2	5	Quyida berilgan integral tenglamaning yechimini Simulink muhitida hisoblash modelini yarating: $P = \frac{Q n_0 h}{K} (1/sh(\frac{2\pi d}{l}) [d(\frac{2\pi d}{l}) - \frac{l}{2}(\frac{2\pi d}{K})])$