

Samarqand davlat universitetining Kattaqo'rg'on filiali Aniq va tabiiy fanlar fakulteti 2-bosqich Matematika va informatika ta'lim yo'nalishi talabalariga 3-semestr uchun « Diskret matematika va mantiq » fanidan yakuniy nazorat savollari

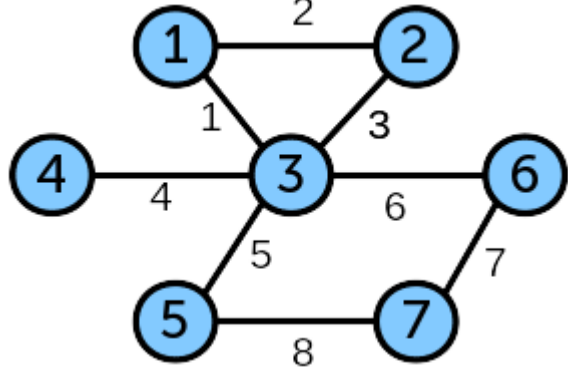
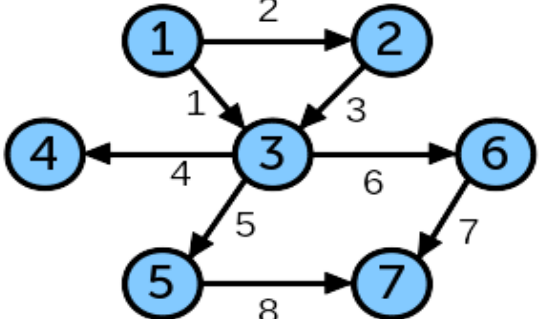
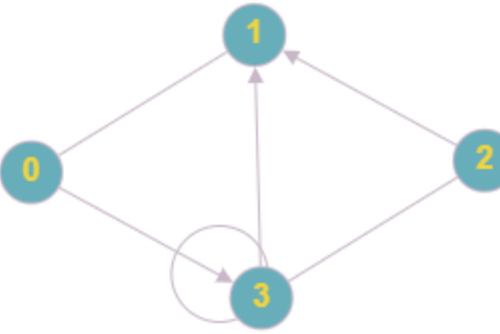
Imtihon shakli: Amaliy

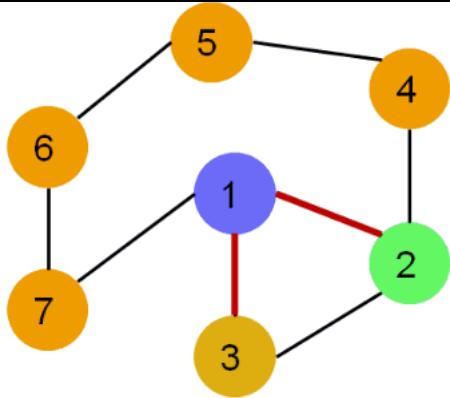
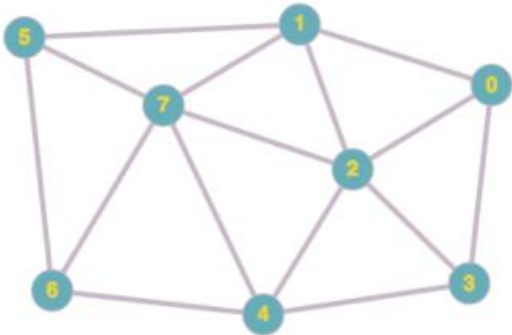
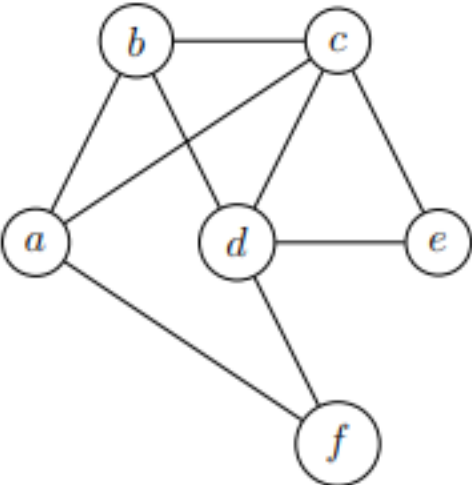
Savolning tartib raqami	Savolning qiyinlik darajasi	Savolning qanday mashg'ulotga tegishliligi	Mavzu nomeri	Savol matni
1.	1	A	1,2,3,4,5	$((x_1 \oplus x_2) \sim x_3) \cdot \overline{(x_3 \rightarrow x_2)}$ berilgan formula uchun chinlik jadvali va chinlik to'plami tuzilsin, soda holatga keltirilsin, soda holati bilan dastlabki holati teng ekanligi isbotlansin.
2.	1	A	1,2,3,4,5	$((x_1 \vee x_2) \rightarrow x_1 \sim x_3) \cdot x_1 \rightarrow (x_2 \otimes x_3)$ berilgan formula uchun chinlik jadvali va chinlik to'plami tuzilsin, soda holatga keltirilsin, soda holati bilan dastlabki holati teng ekanligi isbotlansin.
3.	1	A	1,2,3,4,5	$((x_1 \vee x_2 \vee \bar{x}_3) \sim (x_1 \cdot x_2 x_3)) \oplus (x_2 \rightarrow x_1) \cdot x_3$ berilgan formula uchun chinlik jadvali va chinlik to'plami tuzilsin, soda holatga keltirilsin, soda holati bilan dastlabki holati teng ekanligi isbotlansin.
4.	1	A	1,2,3,4,5	$(x_1 \rightarrow ((x_2 \oplus x_3) \rightarrow x_4)) \sim \bar{x}_1 \cdot (x_2 \rightarrow x_3) \cdot \bar{x}_4$ berilgan formula uchun chinlik jadvali va chinlik to'plami tuzilsin, soda holatga keltirilsin, soda holati bilan dastlabki holati teng ekanligi isbotlansin.
5.	1	A	1,2,3,4,5	$(x_1 \cdot \bar{x}_2 \vee x_3) \cdot (x_2 \vee x_1 \cdot x_4) \rightarrow (x_1 \rightarrow (x_2 \vee x_3))$ berilgan formula uchun chinlik jadvali va chinlik to'plami tuzilsin, soda holatga keltirilsin, soda

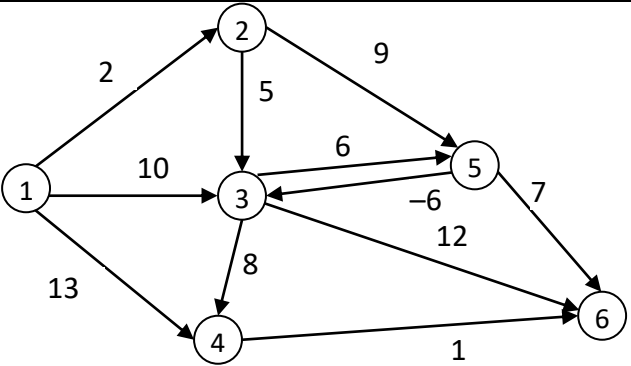
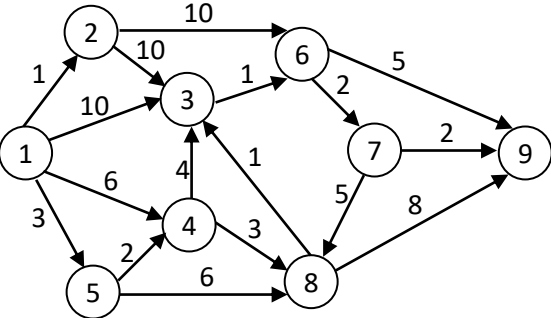
				holati bilan dastlabki holati teng ekanligi isbotlansin.
6.	2	A	13,14	$((x_1 x_2) \downarrow ((x_1 \vee x_4) (x_3 \vee x_4))) ((x_1 x_3) x_2)$ berilgan formulaga mos sodda teng kuchli formulani toping hamda DNSH va KNSH ga keltiring.
7.	2	A		$((\bar{x} \cdot y) \sim (x y)) \rightarrow (z \rightarrow \bar{y})$ berilgan formulaga mos sodda teng kuchli formulani toping hamda DNSH va KNSH ga keltiring.
8.	2	A	13,14	$(x \Leftrightarrow y) \vee (y \rightarrow z) \downarrow ((x \sim z) \vee y)$ berilgan formulaga mos sodda teng kuchli formulani toping hamda DNSH va KNSH ga keltiring.
9.	2	A	13,14	$\overline{\bar{x} \rightarrow y} \sim ((x \rightarrow z) \sim y) \cdot z$ berilgan formulaga mos sodda teng kuchli formulani toping hamda DNSH va KNSH ga keltiring.
10.	2	A	13,14	$(x \vee \bar{y}) \sim ((x \downarrow \bar{y}) z) \downarrow y$ berilgan formulaga mos sodda teng kuchli formulani toping hamda DNSH va KNSH ga keltiring.
11.	3	A	7,8	$(x \rightarrow \bar{y}) \vee ((x \oplus z) \cdot (y z))$ formulani o'z - o'ziga ikkitarafmalikga hamda chiziqlilikga tekshiring.
12.	3	A	7,8	$(x \sim y) \rightarrow (\bar{x} \cdot \bar{z} \rightarrow y) \rightarrow \bar{x} \cdot z$ formulani o'z - o'ziga ikkitarafmalikga hamda chiziqlilikga tekshiring.
13.	3	A	7,8	$((x \downarrow y) z) x \downarrow y$ formulani o'z - o'ziga ikkitarafmalikga hamda chiziqlilikga tekshiring.
14.	3	A	7,8	$((x \rightarrow y) \oplus (x \rightarrow y \cdot z)) (x \downarrow y)$ formulani o'z - o'ziga ikkitarafmalikga hamda chiziqlilikga tekshiring.
15.	3	A	7,8	$((x_1 \vee x_2 \cdot x_3) \sim (\bar{x}_1 \rightarrow \bar{x}_2 \cdot x_3)) \cdot (x_2 \downarrow x_3)$ formulani o'z - o'ziga ikkitarafmalikga hamda chiziqlilikga tekshiring.
16.	3	A	9	$F = \{ (x \vee y) \rightarrow z; (x \rightarrow y) \otimes (x yz); (x \rightarrow yzt)(z \rightarrow x\bar{y}); \}$ Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
17.	3	A	9	$F = \{ (x \oplus y)(z \rightarrow \bar{y}t); xy \oplus z; (x_1 \rightarrow \bar{x}_2) \oplus (x_2 \rightarrow \bar{x}_3) \sim (x_2 \rightarrow x_3) \},$

				Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
18.	3	A	9	$F = \{ (x_1 \rightarrow x_2 \cdot x_3) \vee (x_2 \rightarrow x_1 \cdot x_3) \vee (x_1 \sim x_2) \quad (x \vee y \vee z)t \vee \bar{x} \bar{y} \bar{z} \};$ $x \rightarrow (y \rightarrow zt); \}$, Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
19.	3	A	9	$F = \{ \quad \overline{x \bar{y} \rightarrow \bar{z}}; \quad ((x_1 \vee x_2 \vee \bar{x}_3) \rightarrow (x_1 \vee x_2 x_3)) \oplus (x_2 \rightarrow x_1) \cdot x_3$ $xy \sim (y \sim \bar{z}); \}$, Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
20.	3	A	9	$F = \{ (x \vee \bar{y} \vee z) \bar{t} \vee \bar{x} y \bar{z} \}; \quad x \rightarrow ((yz \rightarrow t) \rightarrow \bar{y}); \quad ((x y) \downarrow z) (y \downarrow t); \}$, Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
21.	3	A	9	$F = \{ (\bar{x} \vee \bar{y} \vee \bar{z})(xy \vee z); \quad (\bar{x}y \oplus z)(xz \rightarrow y); \quad (x \sim y) \vee (xz \oplus (y \rightarrow z)); \}$, Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
22.	3	A	9	$F = \{ (x \downarrow yz) \downarrow ((\bar{x} y) \downarrow z); \quad \overline{x \rightarrow (y \rightarrow z)} \oplus (x (y \oplus z));$ $\overline{x \bar{y} \vee z} \sim (x \rightarrow y \bar{z}); \}$, Quyida berilgan funksiyalar sinfining to'liqligini Post jadvali yordamida tekshiring;
23.	2	A	8	$((x_1 \rightarrow x_2 \rightarrow \bar{x}_3) \downarrow (x_1 \cdot x_2 \rightarrow x_3)) \rightarrow (x_2 \sim x_1) \cdot x_3$ Quyidagi formulani monotonlikga tekshiring;
24.	2	A	8	$((x \rightarrow y) \sim (x \rightarrow y \cdot z)) (x \downarrow y)$ Quyidagi formulani monotonlikga tekshiring;
25.	2	A	8	$\overline{\bar{x} \rightarrow y} \sim ((x \rightarrow z) \sim y) \cdot z$ Quyidagi formulani monotonlikga tekshiring;
26.	2	A	8	$(x_1 \cdot \bar{x}_2 \vee x_3) \cdot (x_2 \vee x_1 \cdot x_4) \rightarrow (x_1 \rightarrow (x_2 \vee x_3))$ Quyidagi formulani monotonlikga tekshiring;
27.	2	A	8	$\overline{(x \sim y) \rightarrow (x \rightarrow \bar{z})} \vee (x \oplus \bar{y}z)$, Quyidagi formulani monotonlikga tekshiring;
28.	2	A	8	$x \rightarrow ((\bar{x} \cdot \bar{y} \rightarrow (\bar{x} \cdot \bar{z} \rightarrow y)) \rightarrow y)z$, Quyidagi formulani monotonlikga tekshiring;

				tekshiring:
29.	2	A	8	$(x\bar{y} \sim \bar{x}z) \oplus ((y \rightarrow z) \rightarrow \bar{x}y)$, Quyidagi formulani monotonlikga tekshiring:
30.	2	A	8	$(x \rightarrow y) \oplus (y \oplus z) \rightarrow y$; Quyidagi formulani monotonlikga tekshiring:
31.	2	A	8,9	$((x_1 \vee x_2 \cdot x_3) \sim (\bar{x}_1 \rightarrow \bar{x}_2 \cdot x_3)) \cdot (x_2 \downarrow x_3)$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
32.	2	A	8,9	$((x_1 \vee x_2 \vee \bar{x}_3) \rightarrow (x_1 \cdot x_2 x_3)) \oplus (x_2 \rightarrow x_1) \cdot x_3$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
33.	2	A	8,9	$(x_1 \cdot \bar{x}_2 \vee x_3) \cdot (x_2 \vee x_1 \cdot x_4) \rightarrow (x_1 \rightarrow (x_2 \rightarrow x_3))$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
34.	2	A	8,9	$((x_1 x_2) \downarrow ((x_1 x_4) (x_3 x_4))) ((x_1 x_3) x_2)$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
35.	2	A	8,9	$(x_1 \rightarrow \bar{x}_2) \oplus (x_2 \rightarrow \bar{x}_3) \oplus (x_2 \rightarrow x_3)$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
36.	3	A	8,9	$((x \downarrow y) z) x \downarrow y$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
37.	3	A	8,9	$(x_1 \oplus (x_2 \rightarrow (x_1 \sim x_2))) \vee (\overline{x_1 \rightarrow x_2})$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.
38.	3	A	8,9	$(x_1 \cdot x_2 \oplus (x_1 \rightarrow x_2)) \rightarrow (x_1 \sim x_1 \cdot x_2)$ Quyidagi formulani chiziqlilikga Jagalkin algebrasidan foydalanib tekshiring.

39.	2	A	10,11,12	 <p>Yoʻnaltirilmagan grafda insidentlik matritsasini hosil qiling.</p>
40.	2	A	10,11,12	 <p>Orgrafda insidentlik matritsasini hosil qiling.</p>
41.	2	A	10,11,12	 <p>grafda insidentlik matritsasini</p>

				hosil qiling.
42.	2	A	10,11,12	 <p>grafda insidentlik matritsasini hosil qiling.</p>
43.	2	A	10,11,12	 <p>grafda insidentlik matritsasini hosil qiling.</p>
44.	2	A	10,11,12	 <p>grafda insidentlik matritsasini hosil</p>

45.	3	A	10,11,12	<p>qiling.</p>  <p>grafda eng qisqa uzunlikka ega yo'lni toping.</p>
46.	3	A	10,11,12	 <p>grafda eng qisqa uzunlikka ega yo'lni toping.</p>