1

1.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

1.2 (30 points)

Make truth tables for the following formulas:

$$(X_3 \wedge (X_2 \vee (X_2 \to X_2)))$$

$$(X_2 \to (X_2 \vee (X_2 \wedge X_3)))$$

1.3 (10 points)

Give defenition of algorithm

2

2.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

2.2 (30 points)

Make truth tables for the following formulas:

$$(X_1 \vee (X_2 \vee (\neg X_3 \vee \neg X_1)))$$

$$(\neg X_1 \vee (\neg X_3 \vee (X_2 \vee X_1)))$$

2.3 (10 points)

Describe the main block types in flowcharts

3

3.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

3.2 (30 points)

Make truth tables for the following formulas:

$$(X_2 \vee (X_2 \to (X_2 \wedge \neg X_1)))$$

$$(\neg X_1 \wedge (X_2 \to (X_2 \vee X_2)))$$

3.3 (10 points)

Describe the main block types in flowcharts

4

4.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

4.2 (30 points)

Make truth tables for the following formulas:

$$(X_2 \vee (\neg X_3 \vee (\neg X_1 \wedge \neg X_3)))$$

$$(\neg X_3 \wedge (\neg X_1 \vee (\neg X_3 \vee X_2)))$$

4.3 (10 points)

What are basic properties of algorithms?

5

5.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

5.2 (30 points)

Make truth tables for the following formulas:

$$(X_2 \to (X_2 \wedge (\neg X_1 \to X_3)))$$

$$(X_3 \to (\neg X_1 \wedge (X_2 \to X_2)))$$

5.3 (10 points)

Give defenition of algorithm

6

6.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

6.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_3 \vee (\neg X_1 \wedge (\neg X_3 \to X_3)))$$

$$(X_3 \to (\neg X_3 \wedge (\neg X_1 \vee \neg X_3)))$$

6.3 (10 points)

Describe the main block types in flowcharts

7

7.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

7.2 (30 points)

Make truth tables for the following formulas:

$$(X_2 \wedge (\neg X_1 \rightarrow (X_3 \rightarrow X_3)))$$

$$(X_3 \rightarrow (X_3 \rightarrow (\neg X_1 \wedge X_2)))$$

7.3 (10 points)

Describe the main block types in flowcharts

8

8.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

8.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_1 \wedge (\neg X_3 \to (X_3 \to X_1)))$$

$$(X_1 \to (X_3 \to (\neg X_3 \wedge \neg X_1)))$$

8.3 (10 points)

Give defenition of algorithm

9

9.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

9.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_1 \to (X_3 \to (X_3 \wedge X_2)))$$

$$(X_2 \wedge (X_3 \to (X_3 \to \neg X_1)))$$

9.3 (10 points)

Describe the main block types in flowcharts

10

10.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

10.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_3 \to (X_3 \to (X_1 \vee \neg X_2)))$$

$$(\neg X_2 \vee (X_1 \to (X_3 \to \neg X_3)))$$

10.3 (10 points)

What are basic properties of algorithms?

11

11.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

11.2 (30 points)

Make truth tables for the following formulas:

$$(X_3 \to (X_3 \wedge (X_2 \vee \neg X_1)))$$

$$(\neg X_1 \vee (X_2 \wedge (X_3 \to X_3)))$$

11.3 (10 points)

Give defenition of algorithm

12

12.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

12.2 (30 points)

Make truth tables for the following formulas:

$$(X_3 \to (X_1 \vee (\neg X_2 \wedge \neg X_3)))$$

$$(\neg X_3 \wedge (\neg X_2 \vee (X_1 \to X_3)))$$

12.3 (10 points)

Give defenition of algorithm

13

13.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

13.2 (30 points)

Make truth tables for the following formulas:

$$(X_3 \wedge (X_2 \vee (\neg X_1 \to \neg X_2)))$$

$$(\neg X_2 \to (\neg X_1 \vee (X_2 \wedge X_3)))$$

13.3 (10 points)

What are basic properties of algorithms?

14

14.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

14.2 (30 points)

Make truth tables for the following formulas:

$$(X_1 \vee (\neg X_2 \wedge (\neg X_3 \vee \neg X_1)))$$

$$(\neg X_1 \vee (\neg X_3 \wedge (\neg X_2 \vee X_1)))$$

14.3 (10 points)

Give defenition of algorithm

15

15.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

15.2 (30 points)

Make truth tables for the following formulas:

$$(X_2 \vee (\neg X_1 \to (\neg X_2 \wedge \neg X_1)))$$

$$(\neg X_1 \wedge (\neg X_2 \to (\neg X_1 \vee X_2)))$$

15.3 (10 points)

Give defenition of algorithm

16

16.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

16.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_2 \wedge (\neg X_3 \vee (\neg X_1 \wedge X_1)))$$

$$(X_1 \wedge (\neg X_1 \vee (\neg X_3 \wedge \neg X_2)))$$

16.3 (10 points)

What are basic properties of algorithms?

17

17.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

17.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_1 \to (\neg X_2 \wedge (\neg X_1 \wedge X_2)))$$

$$(X_2 \wedge (\neg X_1 \wedge (\neg X_2 \to \neg X_1)))$$

17.3 (10 points)

What are basic properties of algorithms?

18

18.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

18.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_3 \vee (\neg X_1 \wedge (X_1 \vee X_2)))$$

$$(X_2 \vee (X_1 \wedge (\neg X_1 \vee \neg X_3)))$$

18.3 (10 points)

Give defenition of algorithm

19

19.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
   - If an allergy is middle, the drops should be appointed;
   - If an allergy is weak, syrup should be appointed.
3. In the column "Dosage" calculate the dosage. Use the data from the next table:

Age (years)	drops	syrup	pills
1 – 2	5 dr. 2 times a day	0,5 spoon 2 times a day	Not prescribed
2 – 6	10 dr. 1 time a day	1 spoon 1 time a day	Not prescribed
6 – 12	20 dr. 1 time a day	2 spoon 1 time a day	1 pill 1 time a day
12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

19.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_2 \wedge (\neg X_1 \wedge (X_2 \vee X_1)))$$

$$(X_1 \vee (X_2 \wedge (\neg X_1 \wedge \neg X_2)))$$

19.3 (10 points)

Describe the main block types in flowcharts

20

20.1 (40 points)

1. Make a table:

N	Age (years)	Allergy type	Sex	Medication	Dosage
1	1.5	Strong	F		
2	4	Middle	M		
3	9	Weak	M		
4	15	Middle	F		
5	7	Weak	M		
6	1	Middle	F		
7	3	Strong	M		
8	17	Middle	F		
9	16	Weak	F		

2. In the column "Medication" define the type of medications depending on the allergy type:
   - If an allergy is strong, pills should be appointed;
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12 and above	20 dr. 2 times a day	2 spoon 2 times a day	1 pill 2 times a day

4. Make flowcharts for used algorithms

20.2 (30 points)

Make truth tables for the following formulas:

$$(\neg X_1 \wedge (X_1 \vee (X_2 \wedge X_1)))$$

$$(X_1 \wedge (X_2 \vee (X_1 \wedge \neg X_1)))$$

20.3 (10 points)

Give defenition of algorithm