



MUAMMOLI MASALA VA TOPSHIRIQLAR:

1. Quyidagi funksiyalar sistemasining to‘liq emasligini Post teoremasi yordamida isbotlang:

- | | | | |
|-----------------------------|-------------------|---|-------------------------------|
| 1) $\{;, \vee\};$ | 4) $\{+, '\};$ | 7) $\{+, \rightarrow\};$ | 10) $\{'\};$ |
| 2) $\{;, \rightarrow\};$ | 5) $\{1, '\};$ | 8) $\{;, \vee, \rightarrow\};$ | 11) $\{\leftrightarrow, '\};$ |
| 3) $\{\rightarrow, \vee\};$ | 6) $\{+, \vee\};$ | 9) $\{;, \vee, \rightarrow, \leftrightarrow\};$ | |

2. Quyidagi funksiyalar sistemasining to‘liqligini Post teoremasi yordamida tekshiring:

- | | | | |
|--------------------------|-------------------|------------------------------------|---------------------------------------|
| 1) $\{;, +\};$ | 4) $\{+, 1\};$ | 7) $\{;, 0, 1\};$ | 10) $\{+, ;, \leftrightarrow\};$ |
| 2) $\{\rightarrow, +\};$ | 5) $\{;, +, 0\};$ | 8) $\{\leftrightarrow, \vee, 0\};$ | 11) $\{+, \vee, \leftrightarrow\};$ |
| 3) $\{\rightarrow, 1\};$ | 6) $\{+, 0, 1\};$ | 9) $\{\rightarrow, ;, 0\};$ | 12) $\{\rightarrow, (\leftarrow)'\};$ |

3. Quyidagi funksiyalar to‘liq funksiyalar sistemasi bo‘lishini Post jadvali yordamida isbotlang:

- | | |
|---|--------------------------------|
| 1) $x'y'z';$ | 7) $(x+1)(y+1)(z+1);$ |
| 2) $(x+y+1)(z+1);$ | 8) $x'(y \rightarrow z');$ |
| 3) $x'y'z' \vee xy'z';$ | 9) $z \leftrightarrow (y+xz);$ |
| 4) $xy \rightarrow z';$ | 10) $(1+x)(y'+z)';$ |
| 5) $xyz+1;$ | 11) $x't' \vee yz';$ |
| 6) $xy \rightarrow (x \rightarrow z');$ | |

3.5.4. Quyidagi funksiyalar sistemasining to‘liqligini Post jadvali yordamida tekshiring :

- | | |
|-----------------------------|---|
| 1) $\{xy \vee y'z, 0, 1\};$ | 7) $\{(y \rightarrow x)(y' \rightarrow z), 0, 1\};$ |
|-----------------------------|---|

$$2) \{xy \vee xz \vee yz, x', 1\};$$

$$8) \{x + y + z, x'\};$$

$$3) \{xy \vee xz \vee yz, x \leftrightarrow y, x + y\};$$

$$9) \{xy \vee xz \vee yz, x'\};$$

$$4) \{y \rightarrow xz, 0, 1\};$$

$$10) \{xy \vee xz \vee yz, 0, 1\};$$

$$5) \{x + y + z, xy, x'\};$$

$$11) \{x + y, 0, 1\};$$

$$6) \{xy + z, (x \leftrightarrow y) + z, 1\};$$

$$12) \{xy, 0, 1\};$$