

$$A, B, C = T \quad \text{କମ୍ପ}$$

$$X, Y, Z = F \quad \text{ଏକ ସମୟ ମିଳିବା କାଳରେ}$$

$$(1) \quad A \supset B \\ T \textcircled{T} T \quad - \quad \text{ସତ୍ୟ}$$

$$(2) \quad A \supset X \\ T \textcircled{F} F \quad - \quad \text{ଝିଲ୍ଲି}$$

$$(3) \quad B \supset Y \\ T \textcircled{F} F \quad - \quad \text{ଝିଲ୍ଲି}$$

$$(4) \quad Y \supset Z \\ F \textcircled{T} F \quad - \quad \text{ସତ୍ୟ}$$

$$(5) \quad (A \supset B) \supset Z \\ T T T \textcircled{F} F \quad - \quad \text{ଝିଲ୍ଲି}$$

$$(H) \quad \text{A and B}$$

$$(6) \quad (X \supset Y) \supset Z \\ F T F \textcircled{F} F \quad - \quad \text{ଝିଲ୍ଲି}$$

$$(7) \quad (A \supset B) \supset C \\ T T T \textcircled{T} T \quad - \quad \text{ସତ୍ୟ}$$

$$(8) \quad (X \supset Y) \supset C \\ F T F \textcircled{T} T \quad - \quad \text{ସତ୍ୟ}$$

$$(9) A \supset (B \supset Z)$$

T (F) T F F — झिम्मा

$$(10) X \supset (Y \supset Z)$$

F (T) F T F — सत्य

$$(11) [(A \supset B) \supset C] \supset Z$$

T T T T T (F) F — झिम्मा

$$(12) [(A \supset X) \supset Y] \supset Z$$

T F F T F (F) F — झिम्मा

$$(13) [A \supset (X \supset Y)] \supset C$$

T T F T F (T) T — सत्य

$$(14) [A \supset (B \supset Y)] \supset X$$

T F T F F (T) F — सत्य

$$(15) [(X \supset Z) \supset C] \supset Y$$

F T F T T (F) F — झिम्मा

$$(16) [(Y \supset B) \supset X] \supset Y$$

F T T F F (T) F — सत्य

$$(17) [(A \supset Y) \supset B] \supset Z$$

TF FT T (F) F — झिझक

$$(18) [(A \cdot X) \supset C] \supset [(A \supset C) \supset X]$$

TF FT T (F) TTT F F — झिझक

$$(19) [(A \cdot X) \supset C] \supset [(A \supset X) \supset C]$$

TF F F T (T) TFF T T — सत्य

$$(20) [(A \cdot X) \supset Y] \supset [(X \supset A) \supset (A \supset Y)]$$

TF FT F (F) FTT F TFF — झिझक

$$(21) [(A \cdot X) \vee (\sim A \cdot \sim X)] \supset [(A \supset X) \cdot (X \supset A)]$$

TF F F FTTF (T) TFFF FT T — सत्य

$$(22) \{ [A \supset (B \supset C)] \supset [(A \cdot B) \supset C] \} \supset [(Y \supset B) \supset (C \supset Y)]$$

TT TTT T TTTT T (F) FTTF TFF — झिझक

$$(23) \{ [(X \supset Y) \supset Z] \supset [Z \supset (X \supset Y)] \} \supset [X \supset (Z \supset Y)]$$

FT F F FT FT FTF (F) FTFFF — झिझक

$$(24) [(A \cdot X) \supset Y] \supset [(A \supset X) \cdot (A \supset Y)]$$

TF FT T F (F) TFFF TFF — झिझक

$$(25) [A \supset (X \cdot Y)] \supset [(A \supset X) \vee (A \supset Y)]$$

TF FFF (T) TFFF TFF — सत्य

11

$$A, B = T$$

$$X, Y = F$$

$$P, Q = \underline{X} \text{ (সত্য নয়)} \quad \text{— অসত্য সত্য নয় সত্য নয়}$$

① $P \supset A$
T T T
F T T — সত্য নয়

② $X \supset Q$
F T T
F T F — সত্য

③ $(Q \supset A) \supset X$
T T T F F
F T T F F — সত্য

④ $(P \cdot A) \supset B$
T T T T T
F F T T T — সত্য

⑤ $(P \supset P) \supset X$
T T T F F
F T F F F — সত্য

⑥ $(X \supset Q) \supset X$
F T T F F
F T F F F — সত্য

⑦ $X \supset (Q \supset X)$
F T T F F
F T F T F — সত্য

⑧ $(P \cdot X) \supset Y$
T F F T F
F F F T F — সত্য

⑨ $[P \supset (Q \supset P)] \supset Y$
T T T T F F
F T F T F F — সত্য

$$\textcircled{10} (A \supset A) \supset (A \supset X)$$

T	T	T	F	T	F	F
F	T	F	F	T	F	F

— झिग

$$\textcircled{11} (P \supset X) \supset (X \supset P)$$

T	F	F	T	F	T	T
F	T	F	T	F	T	F

— सत्य

$$\textcircled{12} (P \supset A) \supset (B \supset X)$$

T	T	T	F	T	F	F
F	T	T	F	T	F	F

— झिग

$$\textcircled{13} (X \supset P) \supset (B \supset Y)$$

F	T	T	F	T	F	F
F	T	F	F	T	F	F

— झिग

$$\textcircled{14} [(P \supset B) \supset B] \supset B$$

T	T	T	T	T	T	T
F	T	T	T	T	T	T

— सत्य

$$\textcircled{15} [(X \supset A) \supset A] \supset A$$

F	T	T	T	T	T	T
F	T	F	F	F	T	F

— सत्य

$$\textcircled{16} (P \supset X) \supset (\sim X \supset \sim P)$$

T	F	F	T	T	F	F	F	T
F	T	F	T	T	F	T	T	F

— सत्य

$$(17) (x \supset p) \supset (\sim x \supset \sim y)$$

F	T	T	F	T	F	F	F
F	T	F	F	T	F	F	F

— झिझ

$$(18) (p \supset A) \supset (A \supset \sim B)$$

T	T	T	F	T	F	F	T
F	T	T	F	T	F	F	T

— झिझ

$$(19) (p \supset q) \supset (p \supset q)$$

T	T	T	T	T	T	T
F	T	F	T	F	T	F

— सत्य

$$(20) (p \supset \sim \sim p) \supset (A \supset \sim B)$$

T	T	F	F	T	F	T	F	T
F	T	F	F	T	F	T	F	T

— झिझ

$$(21) \sim (A \cdot p) \supset (\sim A \vee \sim p)$$

F	T	T	T	T	F	T	F	F	T
T	T	F	F	T	F	T	T	T	F

— सत्य

$$(22) \sim (p \cdot x) \supset \sim (p \vee \sim x)$$

T	T	F	F	F	F	T	T	T	F
T	F	F	F	F	F	F	T	T	F

— झिझ

23) $\sim (X \vee Q) \supset (\sim X \cdot \sim Q)$
 F F T T **T** T F F F T
 T F F F **T** T F T T F — 5/10

24) $[P \supset (A \vee X)] \supset [(P \supset A) \supset X]$
 T T T T F **F** T T T F F
 F T T T F **F** F T T F F — 100%

25) $[A \vee (B \cdot Y)] \supset [(A \vee B) \cdot (A \vee Y)]$
 T T T F F **T** T T T T T T F
 F **F** T F F **T** F T T F F F F — 5/10

$2^n \rightarrow$ ગ્રાહકોનાં સંખ્યા (નરિયકરનીય)
 $\downarrow$

3. (a) $\frac{1}{2}$ - T/F (True/False)

P
T
F

$$\begin{aligned} & 2^n \\ & 2^1 \\ & = 2 \times 1 = 2 \end{aligned}$$

P Q
 T T
 T F

2^2
 2^2
 $= 2 \times 2 = 4$

P	Q	R	2^7
			2^3
T	T	T	$= 2 \times 2 \times 2$
T	T	F	$= 8$
T	F	T	
T	F	F	2^4
F	T	T	$= 2 \times 2 \times 2 \times 2$
F	T	F	$= 16$
F	F	T	
F	F	F	

પ્રવાર - બાળકે મુઠિ, બોલે બાળકે ૨૫ મારા બહેન મુઠિ
બાળકે બાળકે ૫૦૦૦ મારા મારા ૩૦ મિત્ર મિત્ર
મિત્ર ૨૫ બાળકે મુઠિ, બોલે ૨૫ । મિત્ર બહેન બાળકે
બાળકે ન બાળકે મુઠિ, બોલે ૨૫ ।

$$E \supset F$$

$$F \supset E$$

$$\therefore E \vee F$$

ଅନୁସନ୍ଧାନ କରାଯାଇଅଛି - ଯଦି $E = P$, ତେବେ $E = Q$

$$P \supset Q$$

$$Q \supset P$$

$$\therefore P \vee Q$$

P	Q	$\frac{P}{P \supset Q}$
T	T	T
T	F	F
F	T	T
F	F	T

$\frac{P}{Q \supset P}$
T
T
F
T

$\frac{C}{P \vee Q}$
T
T
T
F

ଠିକ୍, ଠିକ୍

ଅନୁସନ୍ଧାନ କରାଯାଇଅଛି ଯଦି $E = P$, ତେବେ $E = Q$ ହେବ। ଏହା ଠିକ୍ ଅଟେ। ଏହା ଠିକ୍ ଅଟେ, ଏହା ଠିକ୍ ଅଟେ। ଏହା ଠିକ୍ ଅଟେ, ଏହା ଠିକ୍ ଅଟେ। ଏହା ଠିକ୍ ଅଟେ, ଏହା ଠିକ୍ ଅଟେ।

$$(R \vee S) \supset T$$

T2 (R.S)

$$\therefore (R \cdot S) \supset (R \vee S)$$

यूनिट्स बनाम सफाई - सफाई $R = P$ या $S = Q$, $T = R$

$$(p \vee q) \supset r$$

ن ۷ (۹۰۹)

$$\therefore (p \cdot q) \supset (p \vee q)$$

P	Q	r	$(P \vee Q) \supset r$
T	T	T	T
T	T	F	F
T	F	T	T
T	F	F	F
F	T	T	T
F	T	F	F
F	F	T	T
F	F	F	F

$$p \qquad \qquad \qquad c$$

$$p \supset (p \cdot q) \cdot (p \cdot q) \supset (p \cdot q)$$

T	T	T
F	T	T
T	F	F
F	T	F
T	F	F
F	T	F
T	F	F
F	T	F

૩૦/૦૫/૨૦૨૦ ની તારીખે ૩૦/૦૫/૨૦૨૦ ના રોજ, બેંચ
 યુનિયન બાબતે છે. ૨૦/૦૫/૨૦૨૦ ના રોજ, બેંચ
 બેંચ બાબતે ૩૦/૦૫/૨૦૨૦ ના રોજ, બેંચ
 બેંચ બાબતે ૩૦/૦૫/૨૦૨૦ ના રોજ, બેંચ
 યુનિયન બાબતે છે. ૨૦/૦૫/૨૦૨૦ ના રોજ, બેંચ

ଅନ୍ତରାଳୀକରଣ ନୀତିରୁ ଅନୁମୋଦିତ ନିମ୍ନଲିଖିତ ସମାବେଶକୁ ପ୍ରମାଣିତ କର ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ । —

$$[P \supset (P \supset Q)] \supset Q$$

P	Q	$[P \supset (P \supset Q)] \supset Q$				
T	T	T	T	T	F	T
T	F	T	F	F	T	F
F	T	F	T	T	T	T
F	F	F	T	T	F	F

ସମାବେଶ

ଅନ୍ତରାଳୀକରଣ ନୀତିରୁ ଅନୁମୋଦିତ ନିମ୍ନଲିଖିତ ସମାବେଶକୁ ପ୍ରମାଣିତ କର ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।

$$P \supset [\sim P \supset (Q \vee \sim Q)]$$

P	Q	$P \supset [\sim P \supset (Q \vee \sim Q)]$				
T	T	T	T	F	T	T
T	F	T	T	F	T	T
F	T	F	T	T	T	F
F	F	F	T	T	T	T

ଅନ୍ତରାଳୀକରଣ

ଅନ୍ତରାଳୀକରଣ ନୀତିରୁ ଅନୁମୋଦିତ ନିମ୍ନଲିଖିତ ସମାବେଶକୁ ପ୍ରମାଣିତ କର ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।
 ଯଦି ଏହା ସତ୍ୟ ହୁଏ ତେବେ ଏହାକୁ ସତ୍ୟ କୁହାଯାଏ ନାହିଁ ।

$$[P \supset (Q \supset P)] \supset [(Q \supset Q) \supset \sim (R \supset R)]$$

P	Q	R	$[P \supset (Q \supset P)]$	$[(Q \supset Q) \supset \sim (R \supset R)]$
T	T	T	T	F
T	T	F	T	F
T	F	T	T	F
T	F	F	T	F
F	T	T	F	F
F	T	F	F	F
F	F	T	F	F
F	F	F	F	F

ଆମ ଲକ୍ଷ୍ୟ

ଆମ ଲକ୍ଷ୍ୟ ହେଉଛି ଏହି ଉପାଦାନକୁ ସତ୍ୟ କରିବା, ଅର୍ଥାତ୍ ଏହାକୁ ସତ୍ୟ କରିବା। ଆମ ଲକ୍ଷ୍ୟ ହେଉଛି ଏହି ଉପାଦାନକୁ ସତ୍ୟ କରିବା। ଆମ ଲକ୍ଷ୍ୟ ହେଉଛି ଏହି ଉପାଦାନକୁ ସତ୍ୟ କରିବା।