(b) For parity check matrix.

$$\cancel{H^{P}}\ G = [I ; P]$$

$$\boxed{H = [P ; I]}. \qquad H^T = \begin{bmatrix} P \\ \hline I_{N-K} \end{bmatrix}.$$

$$H^T = \begin{bmatrix} 1 & 1 & 0 & 1 & 1 & 0 & 1 \\ 1 & 0 & 1 & 1 & 0 & 1 & 1 \\ \hline 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix} \begin{matrix} \left.\begin{matrix} \\ \\ \end{matrix}\right\} \text{Parity } 2. \\ \\ \left.\begin{matrix} \\ \\ \\ \\ \\ \\ \\ \end{matrix}\right\} I_{N-K}.\ 7. \end{matrix}$$

Sindrome value associated to possible errors.

$X . H^T = 0$

So,

$$[x_1\ x_2\ x_3\ x_4\ x_5\ x_6\ x_7\ x_8\ x_9] \begin{bmatrix} 1 & 1 & 0 & 1 & 1 & 0 & 1 \\ 1 & 0 & 1 & 1 & 0 & 1 & 1 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix} = 0.$$

$$\left\{\begin{aligned} x_1 + x_2 + x_3 &= 0. \\ x_1 + x_4 &= 0 \\ x_2 + x_5 &= 0 \\ x_1 + x_2 + x_6 &= 0. \\ x_1 + x_7 &= 0. \\ x_2 + x_8 &= 0. \\ x_1 + x_2 + x_9 &= 0. \end{aligned}\right.$$

For single bit error.

Example: If the error is $x_1$, 1st row is the error that is (1101101).

If error is $x_2$, 2nd row is error (1011011)

and so on...

For 2 bit possible error.

say, if error is $x_3$ and $x_4$, then the error is

$$\begin{array}{r} 1\,0\,0\,0\,0\,0\,0 \\ \oplus\ 0\,1\,0\,0\,0\,0\,0 \\ \hline (1\,1\,0\,0\,0\,0\,0) \end{array}$$

is the error and so on...