The algorithm which contains insertion, deletion and substitution allows k error. In the physical meaning, we just combine the formulas of insertion, deletion and substitution. So now, we combine the three formula using the "or" operation as follows:

The insertion : $R_i^k = (((R_{i-1}^k >> 1) \vee 10^{m-1}) \,\&\, \Sigma(t_i)) \vee R_{i-1}^{k-1}$

The deletion : $R_i^k = (((R_{i-1}^k >> 1) \vee 10^{m-1}) \,\&\, \Sigma(t_i)) \vee ((R_i^{k-1} >> 1) \vee (10^{m-1}))$

The substitution : $R_i^k = (((R_{i-1}^k >> 1) \vee 10^{m-1}) \,\&\, \Sigma(T_i)) \vee ((R_{i-1}^{k-1} >> 1) \vee (10^{m-1}))$

Initially, $R_0^k = 1^k 0^{m-k}$

$$R_i^k = ((R_{i-1}^k >> 1) \,\&\, \Sigma(t_i)) \vee (R_{i-1}^{k-1}) \vee (R_i^{k-1} >> 1) \vee (R_{i-1}^{k-1} >> 1) \vee 10^{m-1}$$

$t_i = p_j$ insertion deletion substitution

and $R^k(i-1, j-1) = 1$