

Question

Consider the 5-bit generator, $G=10011$, and suppose that D has the value 1010101110 . What is the value of R ? Show all the steps including the checking at the receiver.

Answer

8)

$$G = 10011, \quad A = 1010101110$$

9)

→ G is having 5 bits, So add 4 zeros at end of A.

(ex-or operation) →

$$\begin{array}{r}
 10011 \) \ 10101011100000 \\
 \underline{10011} \\
 0011001 \\
 \underline{10011} \\
 010101 \\
 \underline{10011} \\
 0011010 \\
 \underline{10011} \\
 010010 \\
 \underline{10011} \\
 00001000
 \end{array}$$

$$\therefore R = 1000$$

checking at Receiver:-

$$\begin{array}{r}
 10011 \) \ 10101011101000 \\
 \underline{10011} \\
 0011001 \\
 \underline{10011} \\
 010101 \\
 \underline{10011} \\
 0011010 \\
 \underline{10011} \\
 010011 \\
 \underline{10011} \\
 00000000
 \end{array}$$

∴ last we are getting (0000),

So we can say that D is successfully received, without any error.

