Figure 1: Enter Caption
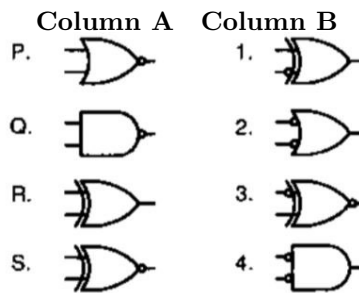
Name: B SHAMALA DEVI
Batch: COMETFWC030
Date: 30-june-2025

Q.11 Match the logic gates in Column A with their equivalents in Column B

(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-4, Q-2, R-3, S-1

Q11. Match the logic gates in Column A with Column B

Column A:

- P – OR gate: outputs 1 if any input is 1.

- Q – AND gate: outputs 1 only if both inputs are 1.

- R – NOR gate: outputs 1 only if both inputs are 0 (NOT of OR).

- S – XOR gate: outputs 1 if inputs are different.

Column B:

1. NOR gate – OR gate followed by a NOT.

2. AND gate – basic multiplication logic.

3. XOR gate – exclusive OR: outputs 1 if inputs differ.

4. OR gate – outputs 1 if any input is 1.

Explanation:

[leftmargin=2em]P is an OR gate → matches with 4. Q is an AND gate → matches with 2. R is a NOR gate → matches with 1. S is an XOR gate → matches with 3.

Correct Matching: P-4, Q-2, R-1, S-3 **Answer: (B)**