Q) How you will verify your trained algorithms? Justify your solution.

Sol) For testing purpose we can test if we combine the result of AND Gate, OR Gate, to get the EX-OR Gate and then we can verify it against original EX-OR gate logic. As Ex-OR gate was not in the training data, so it should be the perfect way to verify the result.

Example: (i) (A EX-OR B) = **(A AND NOT B) OR (B AND NOT A)**

(ii) (A EX-NOR B) = (A AND B) OR (NOT A AND NOT B)

Similarly, we can make EX-NOR, or EX-OR using NAND gates and verify. As NAND is universal gate, we can use combination of NAND to create Ex-OR and Ex-NOR gates for verification.

I have implemented (i) for testing purpose rest can be done in similar fashion.