1. Consider the ReLU activation function for a neuron.
   1.1 Output is always non-negative.
   1.2 Output is always positive
   1.3 output is either one or zero.
   1.4 Output is same as input.
   1.5 None of the above.

   A
2. Consider the ReLU activation function for a neuron.
   Derivative of the ReLu function:
   2.1 continuous
   2.2 differentiable
   2.3 is Constant throughout
   2.4 can take two values.
   2.5 can never be negative

   DE
3. Consider an MLP with 2 inputs, 3 neurons in hidden and one output. Hidden neurons and output neuron uses ReLU Activation.
   Let the input be x_1 and x_2 and output be y. We train this with MSE loss.

3.1 If x_1, x_2 are negative, and y is positive for all the samples, this network can not be used for effective problem solving.

3.2 If x_1, x_2 are positive, and y is negative for all the samples, this network can not be used for effective problem solving.

3.3 This network can be effectively used irrespective of whether input or output is negative.

3.4 This network can not be useful if either input or output is negative.

3.5 None of the above.

B

4. Make the necessary minimal changes (if any required) and rewrite as true sentences in the space provided. Avoid changing the words in bold.
Consider a deep neural network with ReLU activations.
Since the gradient is same as input (which can be very large quantity), there is a chance of vanishing gradient problem.
gradient is 0 or 1; there is no vanishing gradient

5. Make the necessary minimal changes (if any required) and rewrite as true sentences in the space provided. Avoid changing the words in bold.

For leaky ReLu, gradients are *either positive or negative*.

gradients are always positive