

# GATE

November 18, 2023

## Questions

1.  $Q, R, S$  are Boolean variables  $\oplus$  and is the XOR operator. Select the CORRECT option(s).
  - (a)  $(Q \oplus R) \oplus S = Q \oplus (R \oplus S)$
  - (b)  $(Q \oplus R) \oplus S = 0$  when any of the Boolean variables ( $Q, R, S$ ) are 0 and the third variable is 1
  - (c)  $(Q \oplus R) \oplus S = 1$  when  $Q = R = S = 1$
  - (d)  $((Q \oplus R) \oplus (R \oplus S)) \oplus (Q \oplus S) = 1$