(a) by definition, p-value of the test is $P(T=t) = 1 - F(t)$

So p-value: $V = 1 - F(t)$

(b) $T$ is continuous random variable with cdf $F(t)$

So by Proposition 3 of section 2.3, $F(T) \sim \text{Uniform}(0, 1)$

$P(V \leq x) = P(1 - F(T) \leq x) = P(F(T) \geq 1 - x) = x \quad 0 \leq x \leq 1$

$V \sim \text{Uniform}(0, 1)$

(c) If $H_0$ is true, from part (b) we know $V \sim U(0, 1)$

So $P(V > 0.1) = 0.9$

(d) If $H_0$ is true, then $V \sim U(0, 1)$

$P(V < \alpha) = \alpha$