Concept Question 2-11: Given an expression for the impulse response $h(t)$ of an LTI system, how can you determine if the system is (a) causal and (b) BIBO stable?

The system is causal if and only if $h(t)$ is causal, i.e., $h(t) = 0$ for $t < 0$. The system is BIBO stable if $h(t)$ is a linear combination of exponential functions with negative real parts:

$$h(t) = \sum_{i=1}^{N} C_i \, e^{\gamma_i t} \, u(t) \qquad (2.97)$$

LTI system is BIBO stable if and only if all of the exponential coefficients γ_i have negative real parts.