A MATHEMATICAL MODEL FOR COMBINATION OF GEMCITABINE AND AD5/3-Δ24 FOR THE TREATMENT OF OVARIAN CANCER

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Abstract

Traditional studies of technical and biological objects reliability mainly deals with their reliability function and steady state probabilities for renewable systems. Nevertheless, because there are no infinity long living objects and any repair is possible only from the state of partial failure, the modeling of degradation process during a life period of an object is a mostly interesting topic. From the mathematical point of view the degradation during object's life period can be described by the birth and death type process with absorbing state. For this process the conditional state probability distribution given object's life period is a mostly interesting characteristic. In the present paper a generalized birth and death process as model for degradation and aging process for biological objects is proposed. Conditional state probabilities given object's life period and their limiting values when t tends to ∞ are calculated. The variation of the model parameters allows to consider various problems of aging and degradation control application part illustrate our approach.