

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**NUMERICAL SOLUTION OF TUMOR GROWTH USING
BERTALANFFY MODEL**

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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Abstract

Many mathematical models for tumor growth have been suggested in the past to enhance the understanding of tumor growth processes. This study evaluates the Bertalanffy model. The problems of Cancer in Malaysia have become increasingly important as it is the major killer disease. Thus, Bertalanffy model can be applied to calculate the rate of changes of tumor size in the following time. The purposes of this research is to obtain the exact solution of the Bertalanffy population model related to tumor growth and to use an appropriate numerical method to solve Bertalanffy population model and make comparison with the exact solution. We used Euler's method for numerical solution and solving the mathematical model by using Mathematica11 software. It has given the best approximation towards an exact solution and give the best fitting curve in graphical approach.

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