

Course Questions for test 2

- Logistic equation and the carrying capacity.
- Critical points, equilibrium solution and stability of critical point.
- Algorithm of the Euler's method, estimate of the cumulative error.
- Principle of superposition for a second-order linear differential equation.
- Linearly independence and dependence of n functions. What is the characterization with the Wronskian ?
- Theorem which gives the general solution of second-order linear differential equation.
- In the case of second-order linear differential equation, give the characteristic equation and the form of solutions depending on the roots of this equation (give the three cases).
- General solution of a nonhomogeneous equation:

$$y = y_c + y_p,$$

where y_p is ... and y_c is ...

- Polynomial differential operator.