

Differential Equations Questions And Answers

Chapter 1 : Differential Equations Questions And Answers

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Several kinds of first order differential equations. For example, much can be said about equations of the form $E^T M y = \tilde{f}(t, y)$ where \tilde{f} is a function of the two variables t and y . Under reasonable conditions on \tilde{f} , such an equation has a solution and the corresponding initial value problem has a unique solution.

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1.2. sample application of differential equations 3 sometimes in attempting to solve a de, we might perform an irreversible step. This might introduce extra solutions. If we can get a short list which contains all solutions, we can then test out each one and throw out the invalid ones. The ultimate test is this: does it satisfy the equation?

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Partial differential equations Igor Yanovsky, 2005 12 5.2 weak solutions for quasilinear equations 5.2.1 conservation laws and jump conditions consider shocks for an equation $u_t + f(u)_x = 0$, (5.3) where f is a smooth function of u . If we integrate (5.3) with respect to x for $a \leq x \leq b$,

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Differential equations practice problems 1. find the solution of $y'' + 2xy' = x$, with $y(0) = 1$. 2. find the general solution of $xy'' = y'^2 - (y'/x)^2$. 3. suppose that the frog population $p(t)$ of a small lake satisfies the differential equation $dp/dt = kp(200 - p)$. (a) find the equilibrium solutions.

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Solve the following simultaneous linear differential equations: $(1) dy/dx + yz = x$ and $(2) dz/dx + yz = x$ where y and z are functions of independent variable x and $[d/dx]$. [8 marks] 3. if the growth rate of the population of bacteria at time t ... previous year questions from 2017 to 1992 ...

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Differential Equations Questions And Answers

$x y x y ()+ = + = 2 3, 0 \dots$ solution . the correct answer is (a). a differential equation is linear if the coefficients of the dependent variable and all the ... based on the forcing function of the ordinary ...

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Problems and solutions for ordinary differential equations by willi-hans steeb international school for scientific computing at university of johannesburg, south africa and by yorick hardy department of mathematical sciences at university of south africa, south africa updated: february 8, 2017.

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Differential equations water tank problems chapter 2.3 problem #3 variation a tank originally contains 100 gal of fresh water. then water containing 1 2 lb of salt per 2 gallon is poured into the tank at a rate of 2 gal/min, and the mixture is allowed to leave at the same rate. what is the amount of salt at any instant?

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