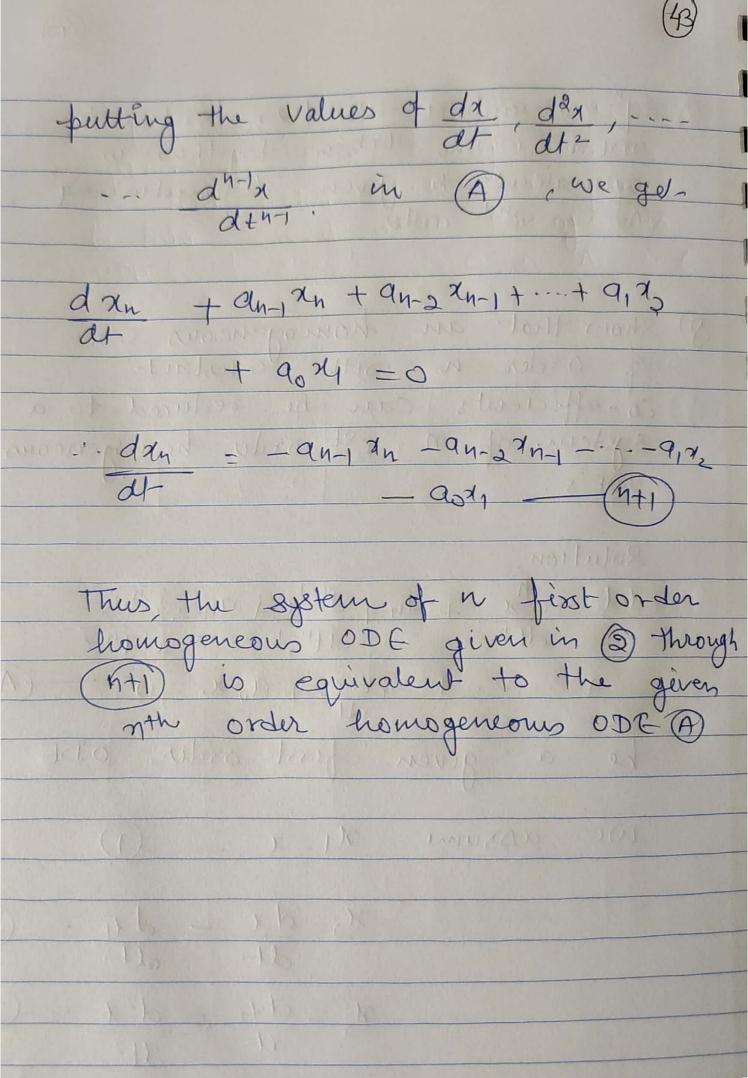
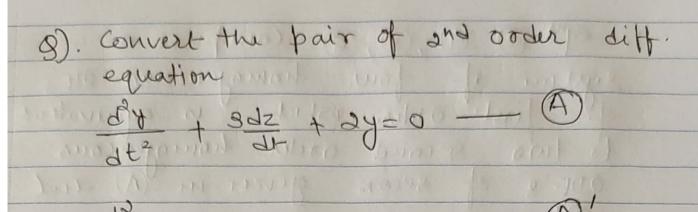


eq" 3 and 4 are two first order
DDE's which taken together is
equivalent to given differential eq2.  Rof and order.
A) of and order.
Site to April 19 19 19 19 19 19 19 19 19 19 19 19 19
3). Show that an homogeneous ODE
of order n with constant
Co-efficients can be reduced to a
8 ystem of n ISt order homogeneous ODE's.
ode's.
Solution.
W- dn + an-1 dn x + an-2 dn-2 dn-2 d th-2
will (a) riden is a thoughton
+ + a, dx + a, x = 0 - A
(A) Ido and moranost of a
be a given first order ODE
V
we assume $y=x$
$x_1 - dx - dx - \infty$
$\frac{\chi_2 = dx}{dt} = dx_1 - 3$
$\alpha = d\alpha - 12$
$\frac{\gamma_3 = d\gamma_2 - d^2\chi}{dt} = \frac{3}{112}$
at-
$x_{n} = \frac{d^{n-1}}{x} = \frac{d^{n-1}}{x} - \frac{d^{n}}{x}$
THI AL

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$$\frac{dz}{dt} = x_4 - 4$$

Putting the value of y, dy, z, dz from D, D, B B in A and A' we get

$$\frac{d(n_2)}{dt} + 3n_4 + 2n_4 = 0 - 3$$

$$\frac{d(n_2)}{dt} + 3n_4 + 2n_5 = 0$$

d (24) + 3×2+2×3 -0 -0

