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*1) Application of ODE's :-

- 1) Newton's law of cooling
- 2) Beam
- 3) Physical Application
- 4) Radio active element
- 5) Electrical circuits
- 6) Modeling free oscillation mechanism
- 7) No damping
- 8) Light damping
- 9) Heavy damping
- 10) Modeling forced mechanical oscillation.
- 11) Computer exercise or activity
- 12) Modeling with first order equation.

4) There are several major methods for the solution of PDE :-

- 1) Separation of variables
- 2) Method of characteristics
- 3) Integral transform
- 4) Super position principle
- 5) change of variables
- 6) Lie group method
- 7) Semianalytical method as well as various numerical methods.

*) Application of PDE :-

Partial differential equation in many engineering or science problems such as heat transfer, elasticity, quantum mechanics, water flow and other problems are governed by PDE. By nature this type of problem is much more complicated than previous ordinary differential equation.