

# **ADHIKAANSH ACADEMY (IITJEE NEET IX X XI XII)**

**RUN BY:**

**DEEPAK SAINI SIR**

**B.TECH, M.TECH (N.S.I.T. DELHI UNIVERSITY)**

**Ex. Faculty of**

**Resonance Kota, Career Point Kota**

**Aakash Institute Mumbai**

# **MATHS NOTES (CLASS 12<sup>TH</sup>)**



**FOR MORE FREE QUESTION  
BANKS AND SAMPLE PAPER  
WT'S UP ON : 7665186856**

**A Best Faculty Group in Meerut....**

**ADHIKAANSH ACADEMY**  
IITJEE NEET IX X XI XII

**सही समय और सही दिशा में कड़ी मेहनत, तो सफलता पक्की!**

*So why  
to wait...*



**DIRECTOR  
DEEPAK SAINI (DSA SIR)  
B.TECH, M.TECH  
NSIT DELHI UNIVERSITY**

**और Class 11<sup>th</sup> से ही शुरू करें,  
Board के साथ-साथ,  
NEET और IITJEE की तैयारी**

**Special Classes For Students Studying in std. 9th & 10th.**

**EX. FACULTY OF RESONANCE KOTA, AAKASH INSTITUTE MUMBAI**  
225/5, 1ST FLOOR, PANCHSHEEL COLONY, BEHIND PINNACLE TOWER, GARH ROAD, MEERUT. ☎ 8057870069  
www.adhikanshiitjeemedical.com | adhikanshiitjeemedical@gmail.com

**Take Dummy Admission  
in Class 11th & Prepare For..**

**IITJEE & NEET**

**For Free Counselling &  
Career Guidance contact on:**

**7665186856**

# Key Notes

---

## Chapter-9

### Differential Equations

An equation involving derivatives of the dependent variable with respect to independent variable (variables) is known as a differential equation.

- Order of a differential equation is the order of the highest order derivative occurring in the differential equation.
- Degree of a differential equation is defined if it is a polynomial equation in its derivatives.
- Degree (when defined) of a differential equation is the highest power (positive integer only) of the highest order derivative in it.
- A function which satisfies the given differential equation is called its solution. The solution which contains as many arbitrary constants as the order of the differential equation is called a general solution and the solution free from arbitrary constants is called particular solution.
- To form a differential equation from a given function we differentiate the function successively as many times as the number of arbitrary constants in the given function and then eliminate the arbitrary constants.
- Variable separable method is used to solve such an equation in which variables can be separated completely i.e. terms containing  $y$  should remain with  $dy$  and terms containing  $x$  should remain with  $dx$ .
- A differential equation which can be expressed in the form  $\frac{dy}{dx} f(x, y)$  or  $\frac{dx}{dy} g(x, y)$  where,  $f(x, y)$  and  $g(x, y)$  are homogenous functions of degree zero is called a homogeneous differential equation.
- A differential equation of the form  $\frac{dy}{dx} + P y = Q$ , where  $P$  and  $Q$  are constants or functions of  $x$  only is called a first order linear differential equation.

FOR MORE FREE QUESTION  
BANKS AND SAMPLE PAPER  
WT'S UP ON : 7665186856

A Best Faculty Group in Meerut....

**ADHIKAANSH**  **ACADEMY**  
IITJEE NEET IX X XI XII

सही समय और सही दिशा में कड़ी मेहनत, तो सफलता पक्की!

So why  
to wait...



**DIRECTOR**  
**DEEPAK SAINI (DSA SIR)**  
B.TECH, M.TECH  
NSIT DELHI UNIVERSITY

और **Class 11<sup>th</sup>** से ही शुरू करें,  
**Board** के साथ-साथ,  
**NEET** और **IITJEE** की तैयारी

Special Classes For Students Studying in std. 9th & 10th.

**EX. FACULTY OF RESONANCE KOTA, AAKASH INSTITUTE MUMBAI**  
225/5, 1ST FLOOR, PANCHSHEEL COLONY, BEHIND PINNACLE TOWER, GARH ROAD, MEERUT. ☎ 8057870069  
www.adhikanshiitjeemedical.com | adhikanshiitjeemedical@gmail.com

Take Dummy Admission  
in Class 11th & Prepare For..

**IITJEE & NEET**

For Free Counselling &  
Career Guidance contact on:

**7665186856**