**Integral Calculus**

Def: 1. **Integration is the inverse of differentiation**

2**. Integration is summation**

**Two types of integral**

1. **Indefinite Integral**
2. **Definite Integral**

**Indefinite Integral**

**FUNDAMENTAL FORMULAS**

1. **,**
2. **,**
3. **,**
4. **,**
5. **,**
6. **,**
7. **,**
8. **,**
9. **,**
10. **,**
11. **,**
12. **,**

**Methods of Integration**

1. Integration by substitution
2. Integration by parts
3. Integration by partial fraction
4. Integration by successive reduction

**Integration by substitution**

**1Example:** Workout

Solution:

put

**2Example:** Workout

Solution:

Put

**Example:** Workout

Solution: put ,

== 6

=6

**=**6+6

=6(+-z)+ 6 tanz +c where

**2Example:** Workout

Solution:

Put

**Type-1**

**Process Substitute**

**3Example:** Workout

Solution:

put

**Type-2**

**Process Substitute**

**4Example:** Workout

Solution:  **,** here

put

:

**Type-3 ,** n is +ve even integer

**Process Substitute**

**5Example:** Workout

Solution:

put

: