Module 5.

Path Planning & Trajectory Planning

* How the end effector would pick/drop at a given point based on the given locatio

* The path through which the end effector is moving or positioning itself is important.

Path Planning. ⇒ points in space where the end effector passes throug

Trajectory Planning ⇒ The velocity or accelerat at which the robotic ar or end effector moves

Assume, joint variable as

$\theta_1(t_1)$ with ⟹ v_1 velocity

$\theta_2(t_2)$ → v_2 velocity.

Tasks → Task planning. (going from one position to another).

↓

Path plan.

↓

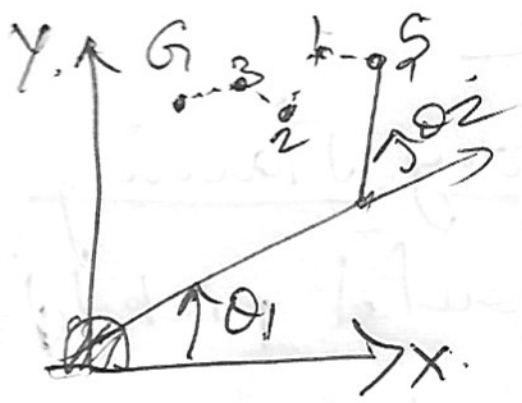
Trajectory plan.

↑

Final o/p.

↑

Low level Cont.



S → starting point.
G → end point.

Path is S to G

Point.	Task space	Joint Space.
S	(x_s, y_s)	(θ_1^s, θ_2^s)
1	(x_1, y_1)	(θ_1^1, θ_2^1)
2	(x_2, y_2)	(θ_1^2, θ_2^2)
.		
.		
G	(x_G, y_G)	(θ_1^G, θ_2^G)

* Path planing is
  S → 1 → 2 → 3 →

* Trajectory pla
  is ~~tracking~~ He
  the path loo
  (Zig Zag, Lin

* 2 ways of calculation → in Task pla (cartesian)
                        → in Revolute (Joints)

* Calc. under task space (cartesia) is always difficult. because it involv inverse kinematics.

* If is a computation challenge in r time.

* So, Joint space is preferred for pa planning.