

## ASSIGNMENT-6

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**PROBLEM STATEMENT:** Develop an android based FAN regulator using an Android Platform like NodeMCU & actuator [a servomotor]

### THEORY:

#### • SERVOMETER:

Using a servomotor is common in robotics for precise control. It is a rotary actuator or linear actuator that allows for precise control of angular or linear position, velocity & acceleration.

#### • MATERIAL REQUIRED:

- Arduino Uno
- Servomotor
- Breadboard
- connecting wires

Module works on 5V supply & the signal pins operate on 3.3V, hence a 3.3V regulator is present in the module itself.

#### • PIN CONNECTIONS:

Sr. No.	Pin on H.C. 05	Pin name	Pin Number
	H.C. 05	MCU	
1.	VCC	VDD	31 <sup>st</sup>
2.	VCC	GND	32 <sup>nd</sup>
3.	Tx	RCB   Tx   CK	25 <sup>th</sup>
4.	Rx	RCB   Rx   DT	26 <sup>th</sup>
5.	State	MC	MC

6. Enable EN

NC

NC

[Enable]

#### • ADVANTAGES:

- If heavy load places on the motor, the speed will increase the current. The motor will not rotate the motor, there is out of step condition.
  - High speed operation possible
- #### • DISADVANTAGES:
- It requires tuning to stabilize the feedback loop
  - Peak torque is limited to a 10% duty cycle

#### • APPLICATIONS:

- Industries
- Radio controlled airplanes
- Robots
- Aerospace industry

#### CONCLUSION:

Thus I have developed an Android app to regulate