Name: Indrajit R. Marathe Emp Id: 214846 99) Design BLDC motor using basic simulit block, Demonstrate speed control system with this motor. Ans: To design BLDC motor their are marry approches. but we use one of them. * Genetic Algorithm: Itis metahentic algowhere we reach to any optimal result after many generation. by performing genetic algorithm we can find optimal value of Ki, Kp, kd. to attenute the oscilation of trequency responce also control speed. * Mathamatical Model of BLDC Motor A Electrical Past: Ud(s) = (ra+las) I(s) + ke_2(s) Vd = DC bus Vtg. ra = winding resistance. La = winding equipalent line industance Ke = back emf coefficient. 2 - mechanical angular speed of motor I = winding phase current in steady state. Te (s) = KT1(s) Te = Electormagnetic Torque KT = motor torque coefficient.

Name: Industit R. Marathe Emp Id: 214846
T Design BLDC motor using bosic similist
B) Mechanical Parting
exstem with this motor.
Te(5) = T,(s) = (Js + By) 2(s)
. To design BIDE motor their are marry
Month The good Torquew ted - Edward gos
J = moment of inertia of rotor
By = Coefficient of Viscus friction
where our reach to any optimal court
* Electrical Part Transfer Function
to atthiulte the oscila (2) I of
10000 Vacs) - ke-e(s) 20000000 (va+Las)
* Mathamatical Model of BLDC Motor
* Mechanical Part Transfer Function
A Electrical Part:
_2(s)
-2(s) - TI(s) 2 D) + (Ts=+ BV)
Vd = DC bus Vtg.
ra = winding registance. La = winding equivalent line industance
Ke = book Emf coefficient.
De mechanical annular speed of mo
I = winding phase current in steads
of ortal