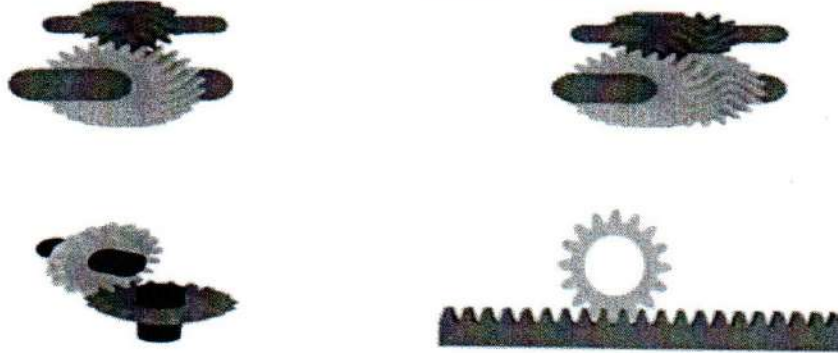


Q1) Draw the block diagram of mechatronic system? ( 6 Marks )

Q2) State the names and applications of the following gears ? ( 8 Marks )



Q3) Determine how many bits a DAC must have to provide output increment of 0.04V or less if the reference is 10 V? ( 10 Marks )

Q4) what is the difference between compound motor and separately excited motor ? ( 8 Marks )

Q5) Complete the following ( 10 Marks )

1. The function of solenoid valve is .....
2. The function of gear box is .....
3. The radial depth of a tooth below the pitch circle called .....
4. The surface of the top of the tooth .....
5. Hysteresis is .....
6. The smallest change in input the output can detect is .....
7. The freedom from systematic error called .....
8. Sensitivity is .....
9. Ip 35 mean.....
10. Example of systems that system dynamic critical in design is .....

Q6) Find the transfer function of satellite system ( Draw the model and show the steps ? ( 10 Marks )

Q7) what is gear ratio of the following, if the speed of gear 1 = 1200RPM CW what is the speed of gear 4 and direction ? ( 8 Marks )

