



# **SNS COLLEGE OF TECHNOLOGY**

**Coimbatore-35**  
**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



## **DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**16EET304/ IOT FOR ELECTRICAL SCIENCES**

**III YEAR VI SEM**

**UNIT 4 – ACTIVATION DEVICES**

**TOPIC 3 – Accelerometer and Gyroscope**



# Consider an example,

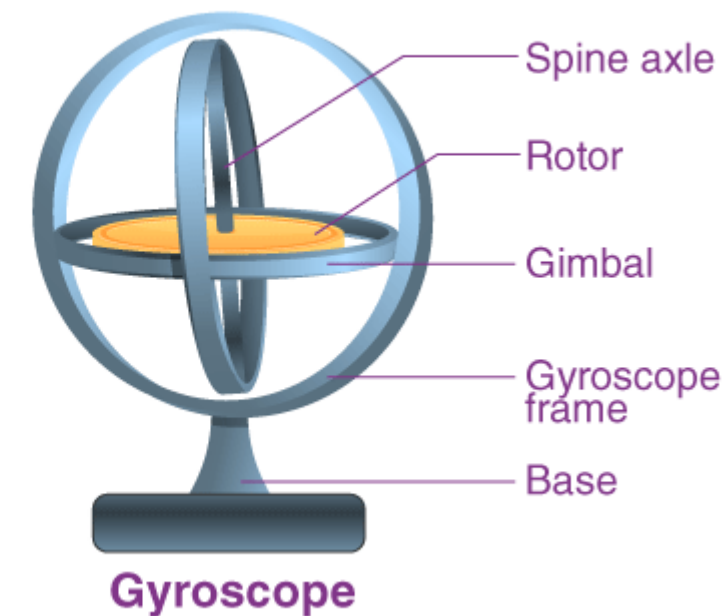
Uses the products





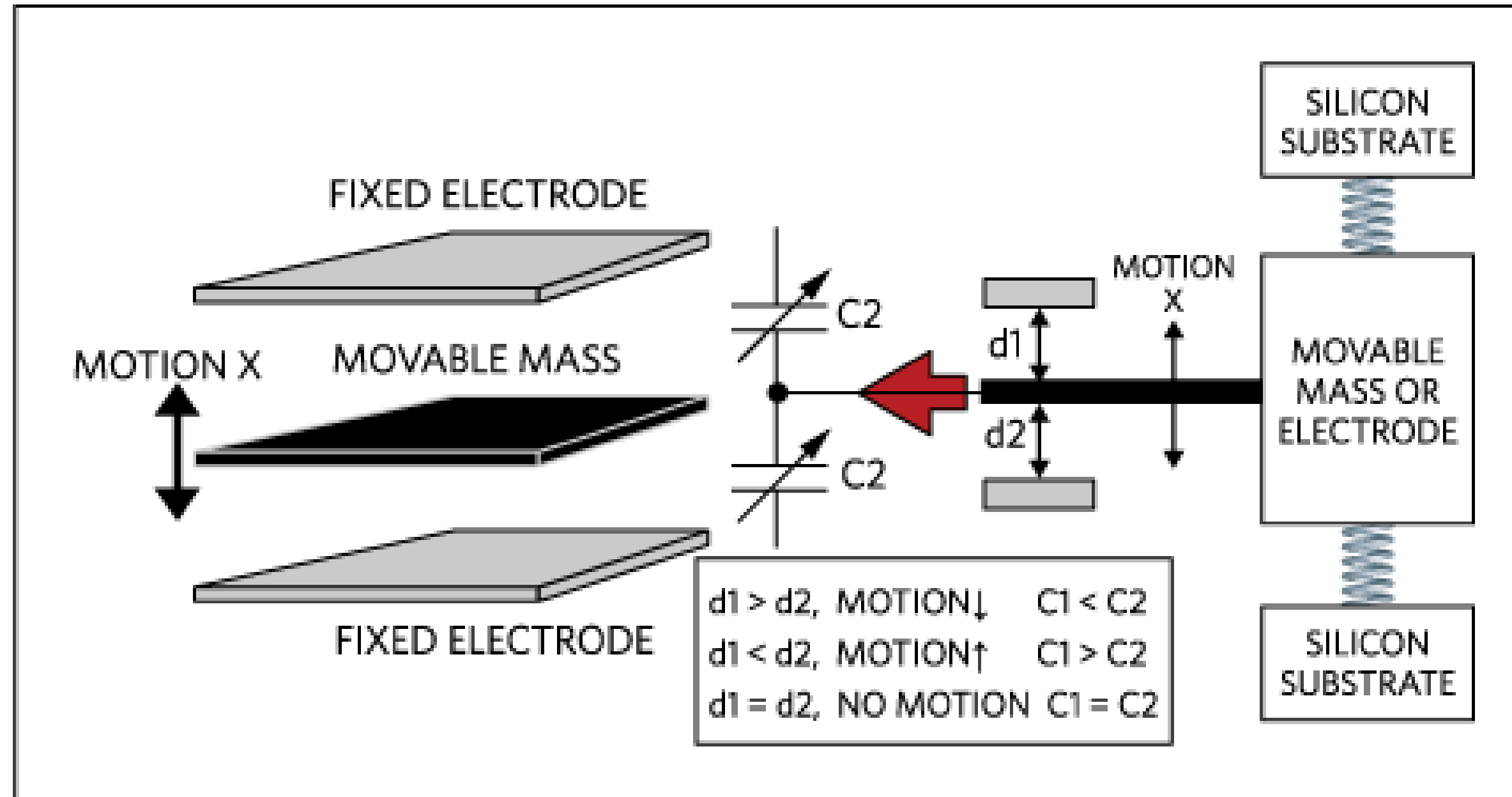
# gyroscope

The working principle of a gyroscope is based on gravity. It is explained as the product of angular momentum, which is experienced by the torque on a disc to produce a gyroscopic precession in the spinning wheel.





# Acceleration associated with a single moving mass





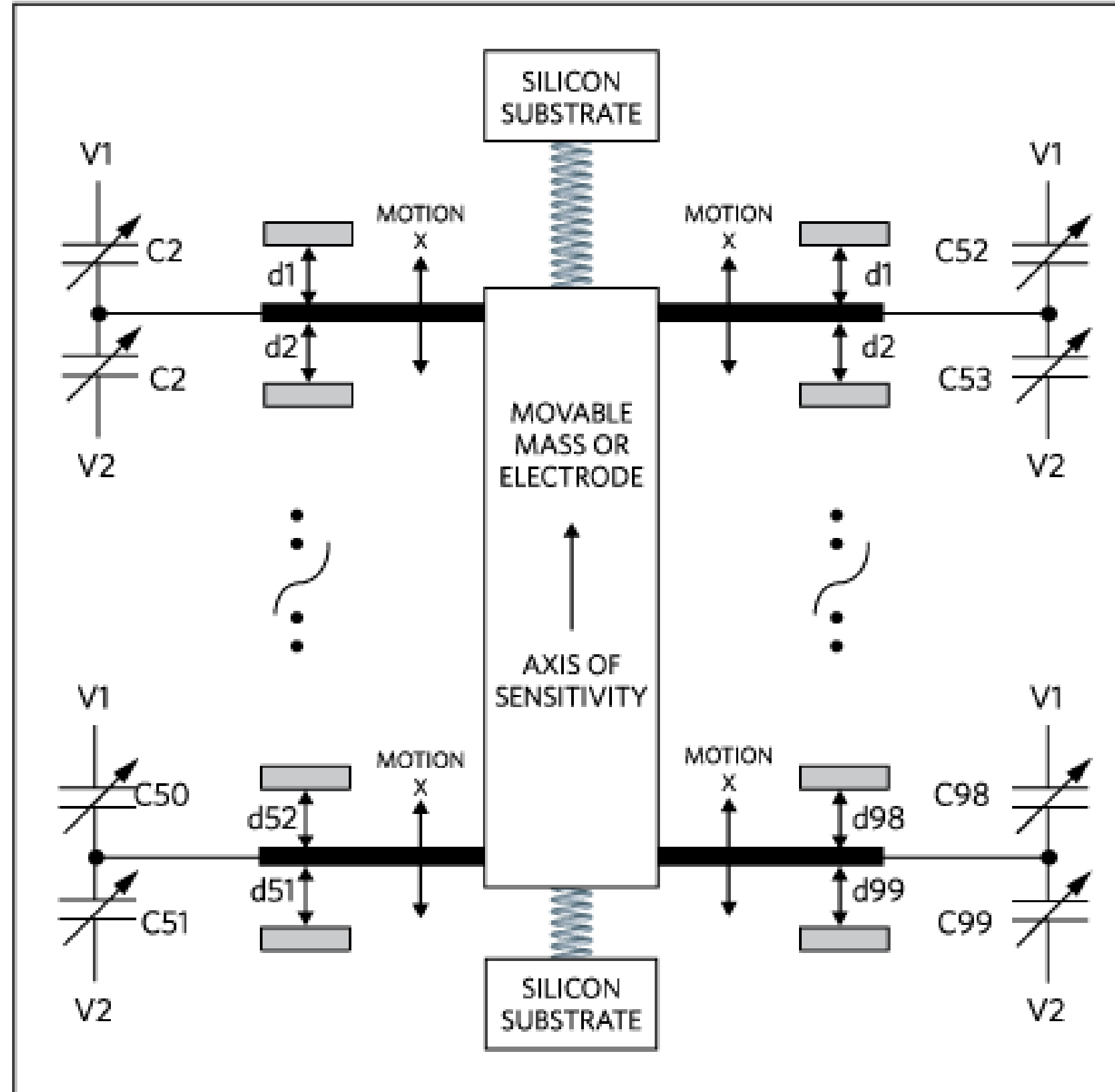
# ASSESSMENT - 1

## Imagine the Process



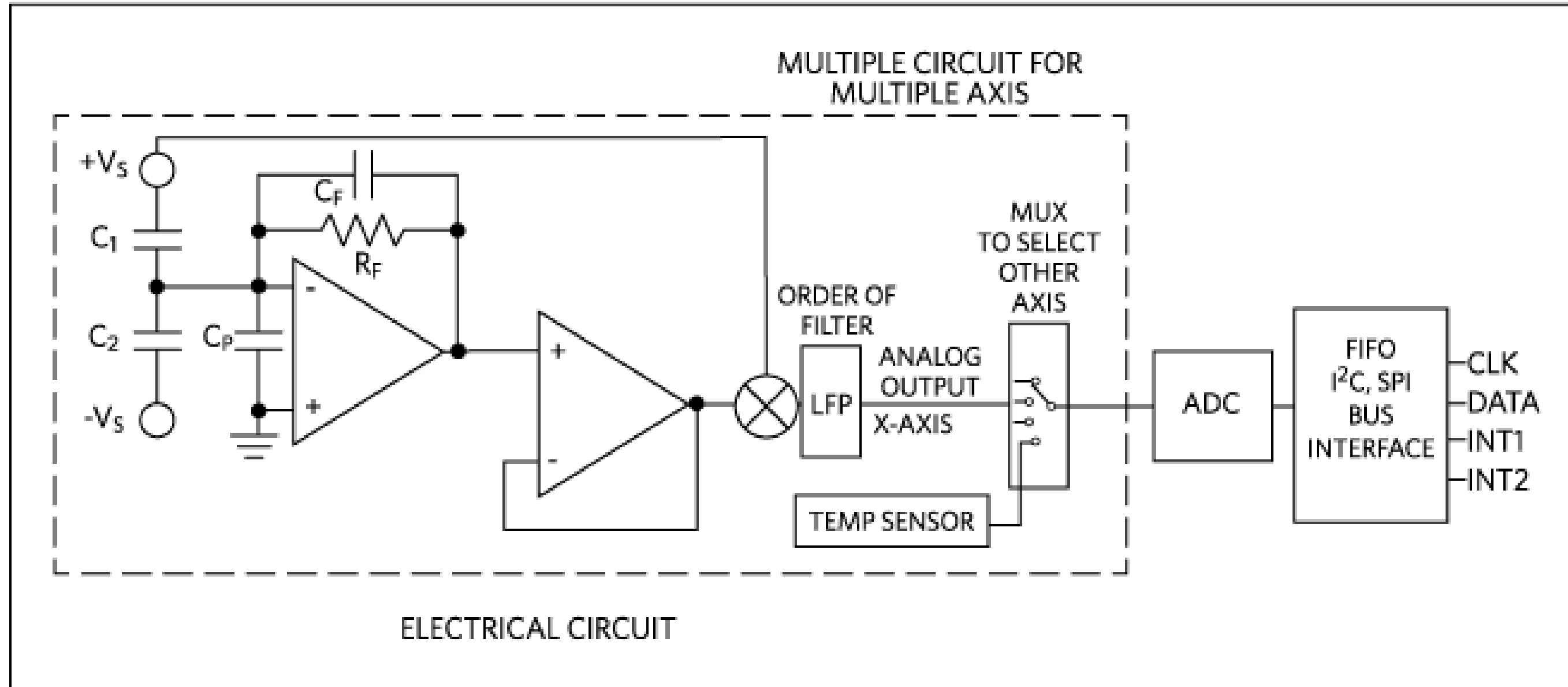


# Acceleration associated with multiple moving masses





# Electrical circuit of an accelerometer





## Applications of Gyroscope Sensor

- It is used in any application where angular velocity, angle sensing, and control mechanisms are needed to be measured.
- **Sensing Angular Velocity** It can be used to sense the rate of change of angular motion in moving bodies. This can be used for detecting athletic movement.
- **Sensing Angles** The angles can also be detected using the gyroscope sensor. This application is used in car navigation and game controllers.
- **Sensing Control Mechanism** We can also use a gyroscopic sensor to detect vibration due to various external factors. We can use this application for camera-shake control and vehicle control.





# ASSESSMENT - 2

## Find the Process





# References

- <https://www.elprocus.com/gyroscope-sensor/>
- [https://www5.epsondevice.com/en/information/technical\\_info/gyro/](https://www5.epsondevice.com/en/information/technical_info/gyro/)
- <https://www.utmel.com/blog/categories/sensors/what-is-a-gyroscope-sensor>
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*Thank You*