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Mechanical Engineering
MME312: Mechanics of machines

- **SAQ1**

- a) **Differences between flywheel and Governors**

- 1) Flywheels control the power fluctuation at the crank shaft.
 - 2) Governors maintain the speed of the engine over variable loading.
 - 3) Flywheels are not essential for every prime mover while Governors are.

- b) **Which type of control system is a governor ?**

- Governors are Mechanical Feedback control systems.

- c) **Difference between Centrifugal and inertia governors**

- 1) Centrifugal governors are easier to operate but less sensitive as opposed to inertia governors.
 - 2) Centrifugal governors change speed due to the rotation of masses from centrifugal force. While inertia governors change speed with respect to the angular acceleration of the flywheel or shaft.

- **SAQ2**

- a) **Why are Watt governors very rarely used;**

- This is due to its low sensitivity at high speed, it is optimised for low speed engines.

- **SAQ3**

- a) **In which respect is Porter governor better than Watt governors**

- 1) It has higher sensitives at high speed due to the presence of dead weight.

- **SAQ4**

- a) **For an IC engine, which type of governor is preferred between Dead weight type and Spring type;**

- 1) Due to its smaller size and the fact that the springs are adjustable to control the movement of the sleeve and ball.