EZEKWONNA PASCHAL OKWUCHUKWU

17/ENG06/034

MEE 312

MECHANICAL ENGINEERING

**SAQ1:**

1. Compare flywheel with governor.
   1. Flywheel is a heavy rotating wheel that reduces the jerk due to un-avoidable speed fluctuations WHILE Governor is a speed controlling device that controls speed variation caused due a varying load.
   2. Flywheel runs as long as the engine is running WHILE Governor runs when the engine does not run at its mean speed.
   3. Flywheel are heavy with a large moment of inertia WHILE Governor are light with a relatively small moment of inertia.
   4. Flywheel have no Influence over the mean speed of the engine WHILE Governor has no Influence on the cycle fluctuations in speed.
2. Which type of control the governor system is?

**Answer**: Mechanical Feedback Control system.

1. Compare Centrifugal governors with inertia governors.
   1. The response of the centrifugal governor is slower than that of the inertia governor.
   2. The sensitivity of the inertia governor is greater than that of the centrifugal governor.
   3. The revolving parts of the centrifugal governor are easier to balance than that of the inertia governor.
   4. Only centrifugal force controls the centrifugal governor WHILE both centrifugal and inertia forces control the inertia governor.

**SAQ2:**

Why is the Watt governor rarely used?

**Answer:** The Watt governor is rarely used because it is limited to only vertical position applications and its sensitivity decreases with speed increase.

**SAQ3:**

In which respect is the porter governor better than the Watt governor?

**Answer:** The porter governor is more sensitive at higher speeds than the Watt governor and the porter governor can carry dead weight unlike the Watt governor

**SAQ4:**

For IC engines , What type of governor will you prefer: Dead weight type or spring controlled type?. Give reasons.

**Answer:** A dead weight /gravity controlled governor is preferred in IC engines as the basic principles of engine operation is centrifugation.