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① a) Fly wheel is a heavy rotating wheel that reduces the jerk due to unavoidable speeds while a governor is a speed controlling device that controls speed caused due to varying load

b) The fly wheel runs as long as the engine runs while the governor runs when the engine doesn't run at its mean speed.

c) Fly wheels are heavy with a large moment of inertia while governors are light with a relatively small moment of inertia

② It is a mechanical feedback control system

3 a) The response of the centrifugal governor is slower than that of the inertia governor.

b) The centrifugal governor controls centrifugal force while the inertia governor controls both inertia and centrifugal forces.

c) The sensitivity of the inertia governor is greater than that of the centrifugal governor

SAQ2

The half governor is rarely used because it is limited to only vertical position applications and its sensitivity decreases with speed increase

SAQ3

The porter is more sensitive at higher speeds than the watt governor and the porter governor can carry dead weight unlike the watt governor

SAQ4

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