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DEPARTMENT: MECHANICAL

MATRIC NO: 17/ENG06/ 087

LEVEL: 300L

TITLE: ASSIGNMENT ON GOVERNORS

ANSWER TO THE QUESTIONS

SAQ 1

1. Compare flywheel with governor

A flywheel minimizes the fluctuations within the cycle of an engine. I.e. it controls the speed variation caused by the fluctuations of the engine turning moment during each cycle of operation.

While, a governor minimizes the fluctuation of the mean speed which may occur due to load variation. i.e. it has no influence over cyclic speed fluctuations but it controls the mean speed over a long period during which load on the engine may vary.

1. Which type of control the governor system is?

A mechanical feedback (automatic) control system.

1. Compare centrifugal governors with inertia governors

Centrifugal governors: They make use of centrifugal forces

They are very common (commonly used)

They are simple in operation.

Inertia governors: They make use of inertia forces

They are more sensitive than the centrifugal governors.

SAQ 2

Why watts governor is very rarely used? Give reasons.

Ans: Because the sensitiveness of the governor is very poor at high speed.

SAQ 3

In which respect is Porter governor better than Watt governor

Ans: Friction.

SAQ 4

For IC engines, which type of governor you will prefer whether dead weight type or spring controlled type? Give reasons.

Ans: spring controlled type.

Reasons include: Springs are used to counteract the centrifugal forces

They can be designed to operate at high speed

They are comparatively smaller in size

Their speed range can be changed by changing the initial setting of the spring

They can work with inclined axis of rotation.