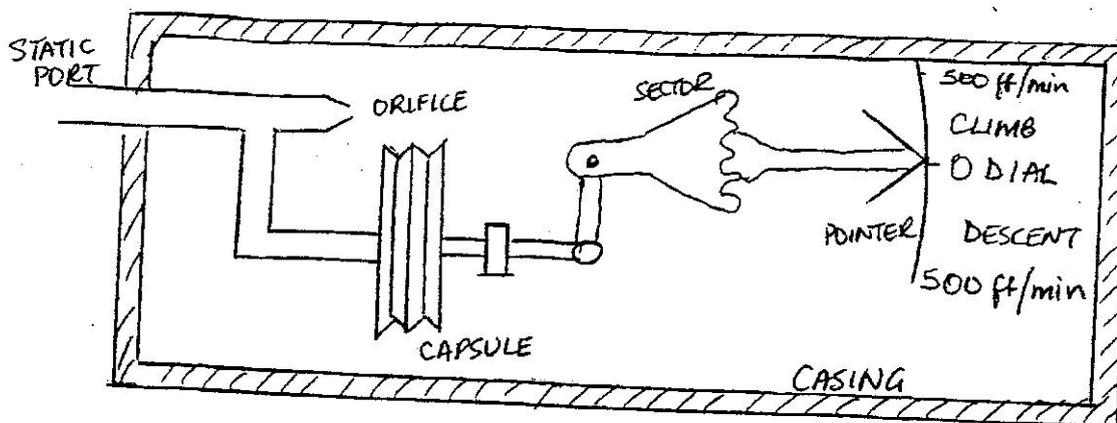


Candidates were expected to know what vertical speed indicator is and how it operates when an aircraft is ascending and at level flight.

### Expected response

Aircraft vertical speed indicator is an instrument used when the aircraft is in a turn to ensure that the aircraft has a co-ordinated turn that is not under banked (skidding) and not over banked (slipping).

Candidates should have explained that at level flight the pressure differential between the capsule and the case is zero and the capsule is neither expanded nor collapsed. The gear segment maintain the dial indicator at zero reading and the pitot static pressure is maintained constant because the aircraft is on a straight and level flight.



When the aircraft is ascending the pitot static pressure decreases, the metering valve maintains constant differential pressure across the capsule and the case pressure is maintained higher than the capsule pressure. Due to this pressure differential, the capsule collapses and the segment is moved which in turn moves the dial indicator up wards as shown in the following sketch.

