Question 19
A patient with aortic regurgitation has the following haemodynamic measurements:
- Cardiac output (CO) 7.5 L/minute
- Heart rate (HR) 75/minute
- Left ventricular end-diastolic volume (LVEDV) 200 mL
- Left ventricular end-systolic volume (LVESV) 50 mL

The regurgitant fraction is defined as the ratio of the regurgitant volume to the total volume flowing through the valve with each beat.

The regurgitant fraction in this patient is:
A. 25%.
B. 33%.
C. 50%.
D. 67%.
E. 75%.

Stroke volume: 7500 mL / 75 beats = 100 mL
Total volume flowing through the valve: LVEDV - LVESV = 200 - 50 = 150 mL

Therefore the regurgitant volume = (Total volume flowing through the valve) - Stroke volume = 150 - 100 = 50 mL

Regurgitant fraction = 50/150 = 33%

Answer B