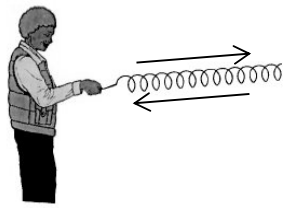
Question number	Answer	Notes	Marks
4 (a) (i)	arrows in opposite directions and (roughly) parallel with the length of the spring; 	allow • a line with a double head • arrows to R & L ignore arrow length arrows need not be adjacent to the spring judge by eye	1
(ii)	any suitable example; e.g. sound ultrasound 'p' wave	ignore waves in a slinky	1
(b) (i)	suitable horizontal line (labelled W); e.g. from peak to peak from trough to trough from midpoint to corresponding midpoint between any adjacent points in phase	judge by eye but should start and finish at suitable points	1
(ii)	2.5 (cm)	do not allow 5/2 allow 2 ½	1
(iii)	substitution into f=1/T; evaluation; unit; e.g. f=1/15 0.067 Hz	no mark for equation as it is given on page 2 -1 for POT error ignore answers given as fractions allow 0.07, 0.0667 s^{-1} condone incorrect truncation e.g. 0.06, 0.066, 0.0666	3