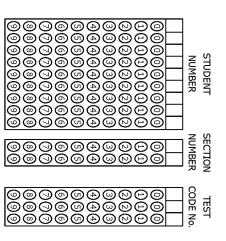
STUDENT No. \_\_\_\_\_\_



1 A B © D E	26 A B C D E	51 A B C D E	76 A B O D E	101 (A (B) (C) (E)
2 A B C D E	27 (A) (B) (C) (D) (E)	52 (A) (B) (C) (D) (E)	77 A B © D E	102 A B C D E
3 A B O D E	28 A B O D E	53 A B O D E	78 A B C D E	103 A B C D E

## Q1. A transverse wave is described by the wave function

$$y(x,t) = 1.60\sin(0.126 x + 2.21 t)$$

where y and x are in meters and t is in seconds. The ratio of the transverse speed to the wave speed (u/v) at x = 0 and t = 0 is:

E) 0.724

Q2. Two identical waves having a phase difference of  $0.306 \lambda$  and moving in the same direction along a stretched string. They interfere with each other, and the amplitude of the resultant wave is 8.05 mm. What is the amplitude of each wave in the unit mm?

A) 11.7 B) 7.03 C) 39.5 D) 4.11 E) 14.1	$y'_{m} = 2y_{m} \left(\omega S \frac{\Phi}{2}\right) \Rightarrow y_{m} = \frac{y'_{m}}{2\left(\omega S \frac{\Phi}{2}\right)}$ $\phi = 2\pi \frac{\Delta x}{2} = 2\pi \left(0.36\right)$
	$y_{m} = \frac{8.05}{2 \left  \cos \left( \frac{2\pi (0.366)}{10.366} \right) \right } = 7.03$

23 A B C D E	48 (A) (B) (C) (D) (E)	73 A B C D E	98 A B C D E	123 A B C D E
24 A B C D E	49 A B C D E	74 A B C D E	99 A B © D E	124 A B © D E
25 A B O D E	50 A B C D E	75 A B C D E	100 A B C D E	125 A B C D E