Eld a allow

Name: Omore FaruK

Regintration Number: 2019831055

PHY 103W

or paret or Brangong a la monot bombnots

Ama: to the que: No. A

1 = ach, 2/ (v) x) (

(i) ... (xp-fos) mis co.o = 1 

A plane progrennive wave in a longitudinal or transverise wave that travers with or without medium, without the change in its amplifude. This wave is not damped by exterioral forces.

## Ano: to the que: No-4

Stondrad form of a progressive wave in,

$$y = asin \frac{2\pi}{4} (vt - x) ...$$

given equation is - of son

Comparison (ii) with (i), mon sinassiforty smold

trodimplitudetta = 0.02 mil todle svoss sommerson

2/1 South of squado on twodies multipares 2/1 | 2/1 | boganob for it was gill

Maria Maria Religion Constitution of the Const

$$\Rightarrow 1 = \frac{\pi}{2} m$$

$$V = \frac{30}{4} \text{ms}^{-1}$$

50, the velocity in 7.5 ms!

and,

we know,

th die

$$f = \frac{\sqrt{1 - \frac{7.5}{1}}}{\sqrt{1 - \frac{7.5}{2}}} = \frac{7.5 \times 2}{11}$$

= 4.78 Hz. ( THH ) mod 4

60 the frequency in 4.78 Hz

a out type all of a copy

Ann: to the que No The partingand

() ... (8+10) man + 14.

wheely and more franchism and of solar

(a)

simple Harrmonic Motion or SHM in defined as a motion in which the treatorising force in directly proportional to the displacement of the body from the mean position. The direction of this treatorising force is always towards the mean position.

4.78 Hz

## Ama: to the que: NO-5

bato

(p) cx at - 4x . x . 7

Ghen equation in,

 $Y = 125 m \left( \frac{2\pi}{10} t + \frac{\pi}{4} \right) ... (i)$ 

Standrad form of equation -

Y = asm (wt +8) ....(1)

Comparong (i) with (ii) and of and

 $\omega = \frac{2\pi}{10}$ 

> 2/1 file 2/1 in Milion of the side of motion of motion

So, the amplitude in 12 runit.

frequency in  $\frac{1}{10}$  Hz

velocity and acceleration at t= 2. The

$$\Rightarrow \frac{d}{dt}(1) = V = 12000 \left( \frac{2\pi}{10} t + \frac{\pi}{4} \right) \times \frac{2\pi}{10}$$

when += 2.55

$$V = 12 \cos \left(\frac{2\pi}{10} \times 2 \cdot 5 + \frac{4}{4}\right) \times \frac{10}{10}$$

= -4.33 mit/s

· Moleculon Adacolon

$$\Rightarrow \frac{d}{dt}(v) = a = -126in(\frac{2\pi}{10}t + \frac{4\pi}{4}) \times \frac{2\pi}{10} \times \frac{2\pi}{10}$$

$$Q = -12 \sin\left(\frac{2\pi}{10} \times 2\pi + \frac{17}{4}\right) \times \frac{(2\pi)^2}{100}$$

e-estimated a solution the property than a

Constraint the sa

Sev.

formed with

Ano: to the que: NO-6

ne x (100) ne ) 00001 - V - (1) fig 6

Freietien in a force that treninth the trelative motion between two objects or materials. The eauses of the trenintive force of braction are : -17.35 milys

- · Molecular Adherion
- · Surctage · Roughners / Tre ) missi- or (v) to d 4=256
- · Plowing effect.

(100) x (11 + 27 x 25) x (20) x (100)

Ama: to the lave: No-6 (b) (i) no 1981 55 - 3

we know,

co-efficient of static ficietion,  $M_s = \frac{f_s}{R_N}$ 

=0.867

b(ii)

we know,

$$\Rightarrow \mu_{K} = \frac{F-ma}{mg}$$

$$= \frac{G8 - 8 \times 14}{8 \times 9.8}$$

= -0.5612

Mx to always less than us However its not possible to have negative struction, and therefore knetic struction a meletration to Mx and be less than a, second kinestic friction in always positive and acts against the applied force.