

ସାହିତ୍ୟ-୬ (୧୩ ଅପ୍ରିଲ)

୧୮

ଅନ୍ୟଥିବୁଣ୍ଡ ବ୍ୟାଙ୍ଗ

ଅନ୍ୟଥିବୁଣ୍ଡ ବ୍ୟାଙ୍ଗ: କୋଣେ ଜୀବିତର ଶ୍ରେଷ୍ଠ ଅନ୍ୟଥିବୁଣ୍ଡ ଏହା
ହୁଏ ହୁଏ ରୂପ, କୌଣ୍ଣ ଓ ଅନ୍ୟଥିବୁଣ୍ଡ କୋଣେ ବିନିଷେଖ
ଦିଲ୍ଲିଆ ବିନିଷେଖ କିମ୍ବା ~~କିମ୍ବା~~ ରୂପର ବିନିଷେଖ ମୁହଁ
କିମ୍ବା କିମ୍ବା ଅନ୍ୟଥିବୁଣ୍ଡ କାହାର, ତାପ ରୂପ ରୁହୁ
ଅନ୍ୟଥିବୁଣ୍ଡ ଅନ୍ୟଥିବୁଣ୍ଡ ଯୁଦ୍ଧ ଉପରି ରାଜୀ.

ଅନ୍ୟଥିବୁଣ୍ଡ ବ୍ୟାଙ୍ଗ

ଛୁଟିଲିବ ଅନ୍ୟଥିବୁଣ୍ଡ
ବ୍ୟାଙ୍ଗ

କାଳିବ ଅନ୍ୟଥିବୁଣ୍ଡ
ବ୍ୟାଙ୍ଗ

ଅନ୍ୟଥିବୁଣ୍ଡ: ଅନ୍ୟଥିବୁଣ୍ଡ ଅନ୍ୟଥିବୁଣ୍ଡର କୋଣେ ରାଜୀ ଆହୁ
ମାତ୍ରାବିନ୍ଦୁର ଆହୁକ ଉଚ୍ଚିତ ବିନିଷେଖ କିମ୍ବା କିମ୍ବା ଅଧିକାର
କାହାର କାହାର କିମ୍ବା କିମ୍ବା ଅନ୍ୟଥିବୁଣ୍ଡ କାହାର,
କାହାର କାହାର କିମ୍ବା କିମ୍ବା ଅନ୍ୟଥିବୁଣ୍ଡ କାହାର,
କାହାର କାହାର କିମ୍ବା କିମ୍ବା ଅନ୍ୟଥିବୁଣ୍ଡ କାହାର,

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ପ୍ରକାଶକଳନ ବ୍ୟାପି: ଏହି କେବଳ ଅଛୁଟ ପ୍ରକଳ୍ପ କାବୀ
କିମ୍ବା କିମ୍ବା କିମ୍ବା ଏବଂ ପାଇଁ କାମକାରୀ
କାମକାରୀ କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା
ଏବଂ କାମକାରୀ କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା

ଏବଂ କାମକାରୀ କିମ୍ବା କିମ୍ବା କିମ୍ବା

$$\begin{array}{|c|} \hline a & < -n \\ \hline \end{array}$$
$$a = -1 < n$$

ପ୍ରକଳ୍ପକାରୀ:

④ # ପ୍ରକଳ୍ପକାରୀ କାମକାରୀ କିମ୍ବା କିମ୍ବା:

- i) ଏହି କାମକାରୀ କିମ୍ବା କିମ୍ବା କିମ୍ବା
- ii) ଏହି କାମକାରୀ କିମ୍ବା କିମ୍ବା
- iii) ଗ୍ରାଫଲ ଅଛାନ୍ତି କାମକାରୀ କିମ୍ବା କିମ୍ବା
- iv) ଏହି କାମକାରୀ କିମ୍ବା କିମ୍ବା କିମ୍ବା

(iii)

পুরোগান: প্রয়োগের ক্ষেত্রে একটি চূড়ান্ত পদ্ধতি

কীর্তন, প্রযুক্তি, অস্তি-অস্থিৎ সমিক্ষার পদ্ধতি

পর্যবেক্ষণ: একটি পুরোগান সম্বন্ধে একটি পদ্ধতি

লাগ, তাক পর্যবেক্ষণ হলো।
(T)

ক্ষেত্র: $15 \rightarrow$ পত্রক, পুরোগান সম্বন্ধে লাগ

লাগ ক্ষেত্র হলো।

পর্যবেক্ষণ: প্রযোগের পর্যবেক্ষণ পদ্ধতি

হলো,

ক্ষেত্র: প্রযোগের ক্ষেত্রে একটি পদ্ধতি অন্তর্ভুক্ত

পর্যবেক্ষণ, ক্ষেত্র পর্যবেক্ষণ এবং ক্ষেত্র হলো,

পর্যবেক্ষণ: একটি পুরোগান ক্ষেত্র পর্যবেক্ষণ এবং

ক্ষেত্র পর্যবেক্ষণ হলো, তাকে পর্যবেক্ষণ (P) হলো,

$$v = f \lambda$$

iv

प्रारंभिक वेग के लिए बिन्दु का अवधारणा

$$a \propto -v$$

$$\Rightarrow F \propto a \propto -v$$

$$\Rightarrow F \propto -v$$

$$\therefore F = -kv$$

$$\Rightarrow ma = -kv$$

$$\Rightarrow m \cdot \frac{dv}{dt} = -kv$$

$$\Rightarrow \frac{d^2v}{dt^2} = -\frac{k}{m} \cdot v$$

$$\Rightarrow \frac{d^2v}{dt^2} + \frac{k}{m} \cdot v = 0$$

$$\Rightarrow \boxed{\frac{d^2v}{dt^2} + \omega^2 v = 0}$$

$$\left. \begin{array}{l} a = \frac{dv}{dt} \\ v = \frac{du}{dt} \\ \omega^2 = \frac{d^2u}{dt^2} \end{array} \right| \quad \begin{aligned} a &= \frac{d}{dt} \left(\frac{du}{dt} \right) \\ &= \frac{d^2u}{dt^2} \end{aligned}$$

$$\omega^2 = \frac{k}{m}$$

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நிலையின் தீவிரதை விடும் முறை

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

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

$$\Rightarrow T = \frac{2\pi}{\sqrt{\frac{k}{m}}}$$

$$\boxed{\begin{aligned}\omega^2 &= \frac{k}{m} \\ \omega &= \sqrt{\frac{k}{m}}\end{aligned}}$$

$$\boxed{T = 2\pi \sqrt{\frac{m}{k}}}$$

\Rightarrow

$$(3 + j\omega) \text{ என்றால் } (3 + j\omega)$$

$$\text{நிலையின் தீவிரதை } \omega = \frac{v_b}{f_b}$$

$$f = \frac{1}{T}$$

$$\Rightarrow f = \frac{1}{2\pi \sqrt{\frac{m}{k}}}$$

$$\boxed{f = \frac{1}{2\pi} \sqrt{\frac{k}{m}}}$$

(ii)

प्रथम विधि के लिए तथा

$$v = A \sin(\omega t + \delta)$$

$$A = \text{अमृत}$$

$$\delta = \text{कोण}$$

$$v = \alpha \sin(\omega t + \delta)$$

$$V = \frac{dv}{dt}$$

$$\Rightarrow \frac{dv}{dt} = \alpha \cos(\omega t + \delta) \cdot \frac{d}{dt}(\omega t + \delta)$$

$$\Rightarrow \frac{dv}{dt} = \alpha \cos(\omega t + \delta) \cdot \omega$$

$$V = \omega A \cos(\omega t + \delta)$$

$$V = \omega \sqrt{A^2 - v^2}$$

$$A = \text{अमृत},$$

$$v = 2\pi r$$

$$v = 0 \text{ cm}$$

$$V_{max} = \omega \sqrt{A^2 - 0}$$

$$V_{max} = \omega A$$

$$v = A \omega \text{ cm}$$

$$V_{min} = \omega \sqrt{A^2 - A^2}$$

$$V_{min} = 0$$

(iii)

समाधान तथा ग्राफ

$$v = wA \cos(\omega t + \delta)$$

$$\Rightarrow \frac{dv}{dt} = \frac{d}{dt} [wA \cos(\omega t + \delta)]$$

$$\Rightarrow \frac{dv}{dt} = -wA \sin(\omega t + \delta) \cdot w$$

$$\Rightarrow \boxed{\cancel{a} = -w^2 A \sin(\omega t + \delta)}$$

$$\sin(\omega t + \delta) = 0 \text{ (const)}$$

$$a_{\max} = w^2 A$$

$$\sin(\omega t + \delta) = 0 \text{ at } t=0$$

$$a_{\min} = 0$$



(iv)

અંગુઠાની રૂપરે ચાલ ઓ ફોર્મ માટે

જવાબ

$$v = wA \cos(\omega t + \delta)$$

$$\therefore v = wA \cos \theta$$

$$a = -w^2 A \sin(\omega t + \delta)$$

$$\text{if } \omega t + \delta = 0$$

$$\theta = 0^\circ \text{ એટાની,}$$

$$(b = w^2 A)$$

$$v_{\min} = 0$$

$$a_{\min}$$

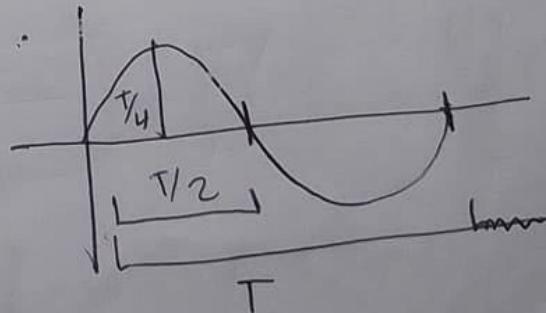
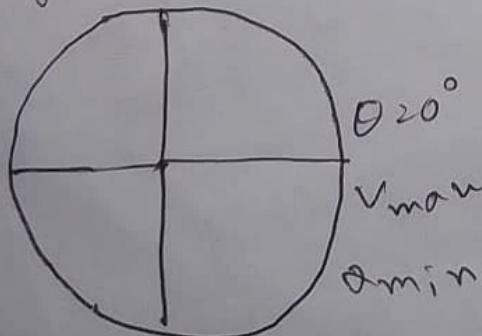
$$\theta = 90^\circ \text{ એટાની,$$

$$v_{\min} = 0$$

$$a_{\max} = w^2 A$$

બુદ્ધિમત્તુની પ્રયત્ન કરીને જવાબ આપો

$$v_{\min} \text{ જીથી } \theta = 90^\circ$$



③

MATH

$$\# y = 10 \sin(\omega t + \delta)$$

কার্যবালী, $T = 30 \text{ s}$

পুরো, $A = 0.05 \text{ m}$

(কোনো কোনো)

② কোনো বকলার গুরুত্ব

③ অন্তি দূরত্ব কোনো

→ ②

$$\therefore \omega = \frac{2\pi}{T}$$

$$= \frac{2\pi}{30}$$

$$= \frac{\pi}{15} \text{ rad s}^{-1}$$

(Ans.)

কার্যবালী,

$$T = 30 \text{ s}$$

④

$$y = A \sin(\omega t + \delta)$$

কার্যবালী,

$$t = 30 \text{ s}$$

$$\Rightarrow 0.05 = 10 \sin\left(\frac{\pi}{15} \times 30 + \delta\right)$$

$$\omega = \frac{\pi}{15} \text{ rad s}^{-1} \quad [② \text{ নথি}]$$

$$\Rightarrow 0.05 = 10 \sin(2\pi + \delta)$$

$$A = 10 \text{ m}$$

$$\Rightarrow \sin \delta = \frac{0.05}{10}$$

$$\therefore \delta = 0.286^{\circ} \quad (\text{Ans.})$$

(ii)

நிலை எவ்வளவு தீவிர ஆற்றல்

புதைக்கி

$$V = \int_0^u F du$$

$$= \int_0^u k v du$$

$$= K \int_0^u v du$$

$$= \frac{K}{2} [v^2]_0^u$$

$$= \frac{K}{2} [u^2 - 0^2]$$

$$\boxed{V = \frac{1}{2} K u^2}$$

$$V = \frac{1}{2} K [A \sin(\omega t + \phi)]^2$$

$$\boxed{V = \frac{1}{2} K A^2 \sin^2(\omega t + \phi)}$$

$$\boxed{V = \frac{1}{2} m \omega^2 n^2}$$

(iii)

Answer

$$K = \frac{1}{2} m v^2$$

$$\Rightarrow K = \frac{1}{2} m [w A \cos(wt + \delta)]^2$$

$$\Rightarrow K = \frac{1}{2} m w^2 A^2 \cos^2(wt + \delta)$$

$$w^2 = \frac{k}{m}$$

$$\Rightarrow K = \frac{1}{2} m \times \frac{k}{m} A^2 \cos^2(wt + \delta)$$

$$\Rightarrow K = \frac{1}{2} k A^2 \cos^2(wt + \delta)$$

$$\Rightarrow K = \frac{1}{2} m w^2 (A^2 - v^2)$$

Final Answer

$$E = U + K$$

$$= \frac{1}{2} k A^2 \sin^2(wt + \delta) + \frac{1}{2} k A^2 \cos^2(wt + \delta)$$

$$= \frac{1}{2} k A^2 [\sin^2(wt + \delta) + \cos^2(wt + \delta)]$$

$$E = \frac{1}{2} k A^2$$

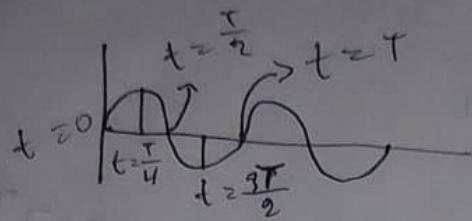
বৈজ্ঞানিক পদ্ধতি অনুসরে কাজের ক্ষেত্রে কাজের ক্ষেত্রে কাজের ক্ষেত্রে

সরল দোকান অনুসরে কাজের ক্ষেত্রে কাজের ক্ষেত্রে কাজের ক্ষেত্রে

কাজের ক্ষেত্রে

কাজের ক্ষেত্রে

(iv)

Example

$$t = \frac{T}{2} \text{ rad},$$

$$U = \frac{1}{2} k A^2 \sin^2(\omega t + \delta)$$

$$U_{\text{max}} = \frac{1}{2} k A^2 \sin^2\left(\frac{\Omega T}{T} \cdot \frac{T}{2} + \delta\right)$$

$$= \frac{1}{2} k A^2 \sin^2(\pi + \delta)$$

$$K = \frac{1}{2} k A^2 \cos^2(\omega t + \delta)$$

$$= \frac{1}{2} k A^2 \cos^2\left(\frac{\Omega T}{T} \times \frac{T}{2} + \delta\right)$$

$$= \frac{1}{2} k A^2 \cos^2(\pi + \delta)$$

$$\therefore E = U + K$$

$$= \frac{1}{2} k A^2 [\sin^2(\pi + \delta) + \cos^2(\pi + \delta)]$$

$$E = \frac{1}{2} k A^2$$

2nd? \Rightarrow 2nd question also

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$$\# t = \frac{3\pi}{4} \text{ not T/4}, E = ?$$

\Rightarrow sum of,

$$V = \frac{1}{2} k A^2 \sin^2(\omega t + \delta)$$

$$= \frac{1}{2} k A^2 \sin^2 \left(\omega \frac{3\pi}{4} + \delta \right)$$

$$= \frac{1}{2} k A^2 \sin^2 \left(\frac{3\pi + \omega}{4} + \delta \right)$$

sum of,

$$t = \frac{3\pi}{4}$$

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

$$k = \frac{1}{2} k A^2 \cos^2(\omega t + \delta)$$

$$= \frac{1}{2} k A^2 \cos^2 \left(\omega \cdot \frac{3\pi}{4} + \delta \right)$$

$$= \frac{1}{2} k A^2 \cos^2 \left(\frac{3\pi + \omega}{4} + \delta \right)$$

$$\therefore E = V + k$$

$$= \frac{1}{2} k A^2 \left[\sin^2 \left(\frac{3\pi + \omega}{4} + \delta \right) + \cos^2 \left(\frac{3\pi + \omega}{4} + \delta \right) \right]$$

$$= \frac{1}{2} k A^2 (\sin^2 \theta + \cos^2 \theta)$$

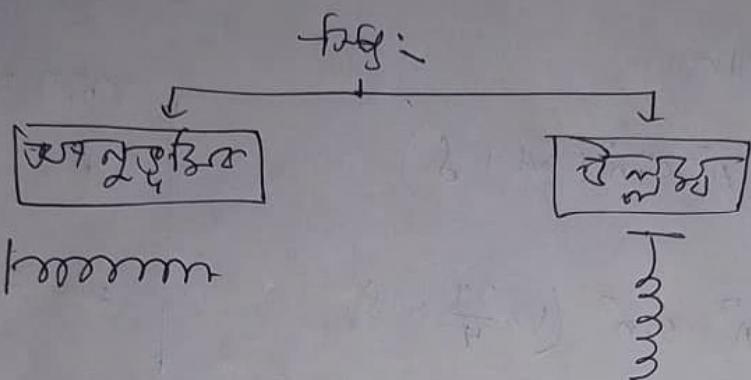
$$= \frac{1}{2} k A^2 (\text{proved})$$

if,

$$\frac{3\pi + \omega}{4} + \delta = 0$$

⑪

स्त्री: - ५२ वर्षी



मातृत्वाद्वारा f_{xy} :

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

$$\Rightarrow T = \frac{2\pi}{\omega}$$

~~$T = 2\pi \sqrt{\frac{m}{k}}$~~

(अपर्याप्ति का लिए)

$$\omega^2 = \frac{k}{m}$$

$$\Rightarrow \frac{1}{\omega} = \sqrt{\frac{m}{k}}$$

उभय फैक्ट्र:

$$\Rightarrow T = 2\pi \sqrt{\frac{m}{k}} \Rightarrow k_e = mg$$

$$\Rightarrow \frac{e}{g} = \frac{m}{k}$$

~~$T = 2\pi \sqrt{\frac{e}{g}}$~~

$F = k_e$

$F = mg$

(Out of Book) (Important Topic)

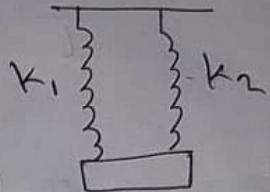
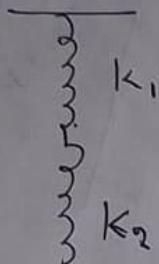
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f₂ কি? - ? যোগ্য

(কুল f₂ কি হবে)

(কুল ম-যোগ্য)

(প্রস্তুত ম-যোগ্য)



$$\frac{1}{k_p} = \frac{1}{k_1} + \frac{1}{k_2}$$

$$k_p = k_1 + k_2$$

MATH

C Nm⁻¹ ও 9 Nm⁻¹ এর ক্ষেত্রে কী সিদ্ধি? - ১০

কুল ক্ষমতা এবং আবেশ প্রয়োজন কী? তার কথা?

কুল ক্ষমতা এবং প্রয়োজন কী? কুল ক্ষমতা কী? (পরিপর্বক)

কুল ক্ষমতা?

(iv)

\Leftrightarrow

$$\frac{1}{k_s} = \frac{1}{k_1} + \frac{1}{k_2}$$

$$\Rightarrow \frac{1}{k_s} = \frac{1}{6} + \frac{1}{3}$$

$$\therefore k_s = 3.6 \text{ Nm}^{-1}$$

$$\therefore T_1 = 2\pi \sqrt{\frac{m}{k_s}}$$

$$= 2\pi \sqrt{\frac{1}{3.6}}$$

$$= 3.311 \text{ s}$$

2 kg m/s²,

$$m = 1 \text{ kg}$$

~~Ans.~~

$$k_1 = 6 \text{ Nm}^{-1}$$

$$k_2 = 9 \text{ Nm}^{-1}$$

$$\left[\frac{1}{6} + \frac{1}{3} = \frac{1}{3} \right]$$

$$\therefore k_p = k_1 + k_2$$

$$= 6 + 9 = 15 \text{ Nm}^{-1}$$

$$\therefore T_2 = 2\pi \sqrt{\frac{m}{k_p}}$$

$$= 2\pi \sqrt{\frac{1}{15}}$$

$$= 1.6223 \text{ s} \quad (\text{Ans.})$$

③ ①

ज्यामितीय अधि



$$T = 2\pi \sqrt{\frac{L}{g}}$$

परिवर्तन
L = अंतर्गत स्थिर

$$\Rightarrow L = l + r$$

$$T^2 = 4\pi^2 \frac{L}{g}$$

$$\Rightarrow g = \frac{4\pi^2 L}{T^2}$$

जबकि एक,

$$g' = \left(\frac{R}{R+h} \right)^2 g$$

$$\Rightarrow \sqrt{\frac{g'}{g}} = \frac{R}{R+h}$$

$$\Rightarrow \sqrt{\frac{g}{g'}} = \frac{R+h}{R}$$

$$\Rightarrow \sqrt{\frac{g}{g'}} = 1 + \frac{h}{R}$$

$$\Rightarrow h = \left(\sqrt{\frac{g}{g'}} - 1 \right) R$$

⑩

$$\therefore T = 2\pi \sqrt{\frac{L}{g}} \rightarrow ①$$

$$\therefore T' = \dots 2\pi \sqrt{\frac{L}{g'}} \rightarrow ②$$

① ÷ ②

$$\frac{T}{T'} = \frac{2\pi \sqrt{\frac{L}{g}}}{2\pi \sqrt{\frac{L}{g'}}}$$

$$\Rightarrow \frac{T}{T'} = \sqrt{\frac{L}{g}} \times \frac{g'}{L}$$

$$\Rightarrow \frac{T}{T'} = \sqrt{\frac{g'}{g}}$$

$$\Rightarrow \frac{T'}{T} = \sqrt{\frac{g}{g'}}$$

~~✓~~

$$\therefore h = \left(\frac{T'}{T} - 1 \right) R$$

(iii)

ପ୍ରତିକାଳୀନ ପ୍ରକଟ କୁଳଟି ନାମଦାତାଙ୍କରେ ଅନୁଷ୍ଠାନ 25,

ନାଲକଟିକେ ଅନ୍ଧାରୀ ହୃଦୟ ଲିପି ରୂପରେ ଅନୁଷ୍ଠାନ

୩୩ 2.4 s, ଅନ୍ଧାରୀ ସମ୍ପଦ ହେଉଥିଲା ।

⇒

$$\therefore h = \left(\frac{T'}{T} - 1 \right) R$$

$$\approx \left(\frac{2.4}{2} - 1 \right) \times 6.4 \times 10^6$$

$$\approx 1.28 \times 10^6 \text{ m} \quad (\text{Ans.})$$

ଉଚ୍ଚାରଣ,

$$T = 2 \text{ s}$$

$$T' = 2.4 \text{ s}$$

$$R = 6.4 \times 10^6 \text{ m}$$

ચૂફણ રૂપનામા

રૂપનામા: એ રૂપનામા વિસ્તારાનું 2 sec અનુ

ચૂફણ રૂપનામા હાના.

શુદ્ધાંગનાં? દેખાવ કરાય રૂપનામા વિસ્તારાનું
 (660 m)

હાના.

⇒

$$\therefore h = \left(\frac{T'}{T} - 1 \right) R$$

રૂપનામા,

$$h = 88 \text{ m}$$

$$\Rightarrow \left(\frac{88 \text{ m}}{6.4 \times 10^6} + 1 \right) \times 2 = T'$$

$$\therefore T' = 2.00285 \text{ s}$$

(Ans.)

(v) (i)

$$\Delta t = \left(\frac{T}{T'} - 1 \right) \times 86400$$

$$= \left(\frac{2}{2.0028} - 1 \right) \times 86400$$

$$= -120.85$$

(Ans.)

$$\boxed{\frac{2 \times 86400}{86400 \pm n}}$$

MATH

गणितीय विधि

परमाणु का विवरण

$$\therefore n = \left(\frac{T'}{T} - 1 \right) R$$

$$\Rightarrow \left(\frac{10000}{6.41 \times 10^6} + 1 \right) T = T'$$

$$\therefore T' = 2.00312 \text{ h } \underset{\text{Ans.}}{(s)}$$

$$T = 2 \text{ s}$$

$$n = 10,000 \text{ m}$$

(ii)

$$\therefore \tau' = \frac{2 \times 86400}{86400 - n}$$

$$\Rightarrow 86400 - n = \frac{2 \times 86400}{\tau'}$$

$$\Rightarrow n = 86400 - \frac{2 \times 86400}{2.003125}$$

$$\therefore n = 134.79 \text{ s}$$

(Ans.)

କେବଳ ଫ୍ୟୁ: - ୨୨ ମୀଟର ଲାଗୁ ହେବାର ପାଇଁ ଏହା କିମ୍ବା ଏହାରେ କିମ୍ବା

ଦ୍ୱାରା କିମ୍ବା ୨୦ ଫ୍ୟୁ: ୧୨୦ ମିନିଟ୍ ଅନୁଷ୍ଠାନିକ

1.7 s.

(2) କିମ୍ବା କିମ୍ବା?

$$\Rightarrow (2) f = \frac{1}{T}$$

$$= \frac{1}{1.7} \text{ Hz}$$

(Ans.)

କିମ୍ବା କିମ୍ବା,

T = 1.7 s

(iii)

Q5. From given?

 \Rightarrow

$$\therefore \omega^2 = \frac{k}{m}$$

$$\Rightarrow \omega^2 m = k$$

$$\therefore k = \left(\frac{2\pi}{T} \right)^2 \times 50 \times 10^{-3} \text{ Nm}^{-1}$$

$$= 0.683 \text{ Nm}^{-1}$$

(Ans.)

From arch,

$$m = 50 \times 10^{-3} \text{ kg}$$

$$\omega = \frac{2\pi}{T} \text{ rad s}^{-1}$$

$$T = 1.7$$

Q6. Find velocity?

$$v_{max} = \omega A$$

$$= \frac{2\pi}{T} \times 0.12$$

$$= \frac{2\pi}{1.7} \times 0.12$$

$$= 0.443 \text{ m s}^{-1}$$

(Ans.)

From arch,

$$A = 12 \text{ cm}$$

$$= 0.12 \text{ m}$$

$$\omega = \frac{2\pi}{T} \text{ rad s}^{-1}$$

$$T = 1.7 \text{ s}$$

③ Ansatz

$$\omega_{\text{max}}^2 = \omega^2 A$$

$$= (3.696)^2 \times 0.12$$

$$= \cancel{+0.3} 1.639 \text{ m s}^{-2}$$

(Ans.)

④

$0.06 \text{ m} - r = ?$ um woz?

$$v = \omega \sqrt{A^2 - r^2}$$

$$= 3.696 \sqrt{(0.12)^2 - (0.06)^2}$$

$$\approx 0.384 \text{ m s}^{-1}$$

(Ans.)

$r = 0.06 \text{ m}$

Q1

⑥ ০.০৬ m → কতটা স্পন্দন ?

$$a = \omega^2 A \sin(\omega t + \delta)$$

$$= \omega^2 u$$

$$= (9.696)^2 \times 0.06$$

$$\approx 0.8196 \text{ ms}^{-2}$$

(Ans.)

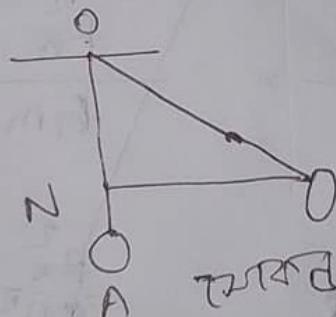
২মাত্রা মিটা,

$$u = 0.06 \text{ m}$$

#

$$OA = 2 \text{ m}$$

$$BN = 0.5 \text{ m}$$



⑦ চুম্বকীয় ক্ষেত্র কোর্ট একটি ক্ষেত্র ২৮০০, অন্তর্ভুক্ত ১৩

২৫০০৪৪ ক্ষেত্র ৮১ ক্ষেত্র ৩ ৪ ক্ষেত্র

১৩ ক্ষেত্র চুম্বকীয় ক্ষেত্র একটি ২০১

১০

(11)

⇒ ②

THERMOMETER,

$$\therefore g_e = \frac{G_m m_e}{R_e^2}$$

$$\therefore g_m = \frac{G_m m_m}{R_m^2}$$

$$\therefore \frac{g_e}{g_m} = \frac{\frac{G_m m_e}{R_e^2}}{\frac{G_m m_m}{R_m^2}}$$

$$\Rightarrow \frac{g_e}{g_m} = \frac{m_e}{R_e^2} \times \frac{R_m^2}{m_m}$$

$$= \frac{81m}{(4R)^2} \times \frac{R^2}{m}$$

$$= \frac{81}{16}$$

$$\therefore \frac{T_m}{T_e} = \sqrt{\frac{g_e}{g_m}} = \sqrt{\frac{81}{16}} = \frac{9}{4},$$

$$\therefore T_m = \frac{9}{4} \times 2 = \frac{9}{2} \quad \{ \text{Ans.} \}$$

$$g_e = 9.8 \text{ ms}^{-2}$$

$$\text{Gfz} \\ m_m = m \text{ kg}$$

$$\therefore m_e = 81 \text{ m kg} \\ = 81m \text{ kg}$$

Gfz,

$$R_m = R \text{ m}$$

$$\therefore R_e = 4 R_m \text{ m} \\ = 4 R \text{ m}$$

iv

ii) A व B के दोनों लंबे किसी नियमित गति में हैं। तो क्या किसी बारे में कह सकते हैं?

$$B \text{ के लिए, } E_B = U_B + K_B$$

$$= mg \cdot AN + 0$$

$$= mg \times AN$$

$$A \text{ के लिए, } E_A = U_A + K_A$$

$$= 0 + \frac{1}{2} m v^2$$

$$= 0 + \frac{1}{2} m (v^2 + 2gh)$$

$$= mg h$$

$$= mg \cdot AN$$

$$\therefore E_A = E_B$$

∴ दोनों किसी नियमित गति में हैं।

(Ans.)

11

#৫৩৮ি চারুচোলকেন্দ্র সৈকত পুরাতত্ত্ব পরিষদ
পরিষদ, চালে রাজ্যসভা ভবন ১০/ কুঠি রোড
পুরাতত্ত্ব রাজ্যসভা ভবন ১০/

$$\therefore T = \frac{2 \times 86400}{86400 + 10} \quad \left| \begin{array}{l} \text{Two units,} \\ n=105 \end{array} \right.$$

= 1.99985
(Ans.)