One Stop for Physics Practice for NEET

Monday - Friday ; 11 AM

1 Series = Questions from Top Books

Work, Energy & Power

Spring- Block Problems

3

physics_tcarmy

a.sane.hurricane

Tamanna Chaudhary
(Physics Expert)

Tamanna Chaudhary

Expert in NEET UG

One of the most followed Educators, Tamanna, won the 2020 Unacademy People's Choice Award. Her student secured 99.56 percentile in Physics.

100M Watch mins

2M Watch mins (last 30 days)

255K Followers

14K Dedications

NEET UG

Select a subscription plan that suits you

ICONIC

Take your NEET UG preparation to next level with Personal Coach

- Everything included in PLUS
- 1:1 Live mentorship
- Live doubt solving
- Physical notes

Learn more

Select ICONIC

PLUS

Basic plan to get you started

- India's best educators
- Interactive live classes
- Structured courses & PDFs
- Live tests & quizzes

Select PLUS

LITE

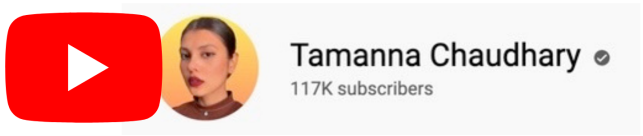
Assess your preparation with tests

- Access to curated test series
- Study Material*

Select LITE

One Stop for Physics Practice for NEET

1 Series = Questions from Top Books



Details about the series-

- Guaranteed Question Practice of 7000+ Questions
- Classes: Monday to Friday at 11 AM
- PDF (without annotations) - Provided on my Telegram Channel
- Topic-wise, Chapter-wise, Unit-wise and Full Mock Questions included
- Can be followed by all NEET Aspirants

7777

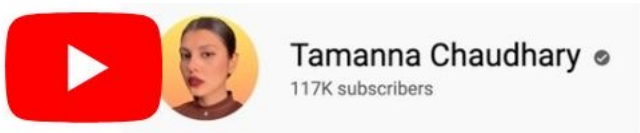
Use ARMYLIVE code to join

physics_tcarmy

a.sane.hurricane

One Stop for Physics Practice for NEET

1 Series = Questions from Top Books



663
7777

Updated- 14 November'22

Books Covered in this Session-

- HC Verma
- SL Arora
- DC Pandey
- TC Selected

Use ARMYLIVE code to join

physics_tcarmy

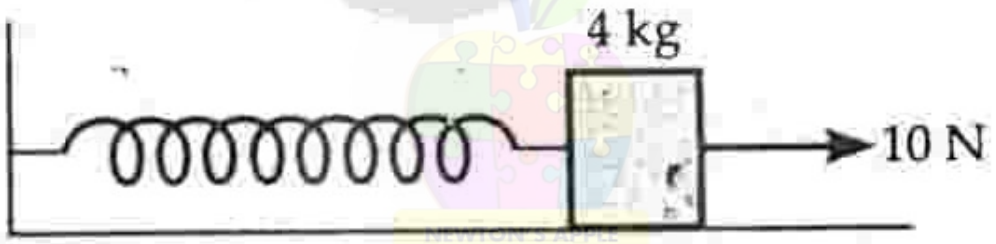
a.sane.hurricane

Problem 23. Does the potential energy of a spring decrease or increase when it is compressed or stretched ?

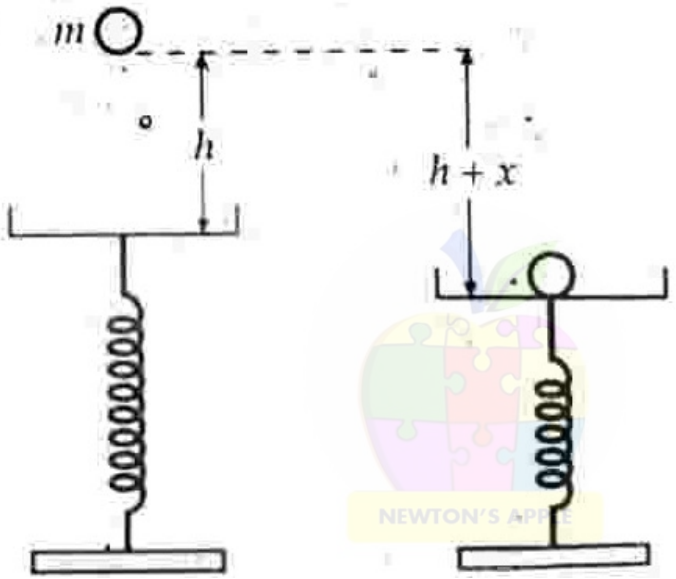
Problem 25. Springs A and B are identical except that A is stiffer than B, *i.e.*, force constant $k_A > k_B$. In which spring is more work expended if they are stretched by the same amount ?

Problem 26. Springs A and B are identical except that A is stiffer than B. In which spring is more work expended if they are stretched by the same force ?

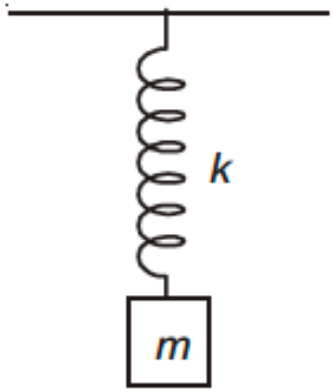
EXAMPLE 40. *The spring shown in Fig. 6.30 has a force constant of 24 Nm^{-1}. The mass of the block attached to the spring is 4 kg. Initially the block is at rest and spring is unstretched. The horizontal surface is frictionless. If a constant horizontal force of 10 N is applied on the block, then what is the speed of the block when it has been moved through a distance of 0.5 m?*



EXAMPLE 41. *A ball of mass m is dropped from a height h on a platform fixed at the top of a vertical spring, as shown in Fig. 6.31. The platform is depressed by a distance x. What is the spring constant k ?*



Initially mass m is held such that spring is in relaxed condition. If mass m is brought down slowly then, maximum elongation in spring will be



(1) $\frac{mg}{k}$

(2) $\frac{2mg}{k}$

(3) $\frac{mg}{2k}$

(4) $\frac{mg}{4k}$

When a spring is stretched by 2 cm, it stores 100 J of energy. If it is stretched further by 2 cm, the stored energy will be increased by

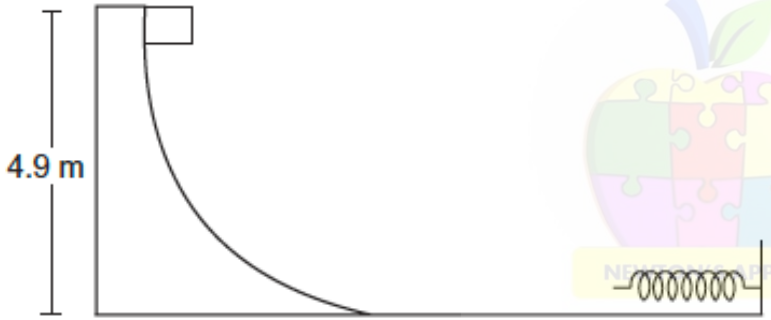
A) 100 J

B) 200 J

C) 300 J

D) 400 J

Figure (8-W8) shows a smooth curved track terminating in a smooth horizontal part. A spring of spring constant 400 N/m *is attached at one end to a wedge fixed rigidly with the horizontal part. A* 40 g *mass is released from rest at a height of* 4·9 m *on the curved track. Find the maximum compression of the spring.*



A small block of mass 100 g is pressed against a horizontal spring fixed at one end to compress the spring through 5·0 cm (figure 8-E11). The spring constant is 100 N/m. When released, the block moves horizontally till it leaves the spring. Where will it hit the ground 2 m below the spring ?