

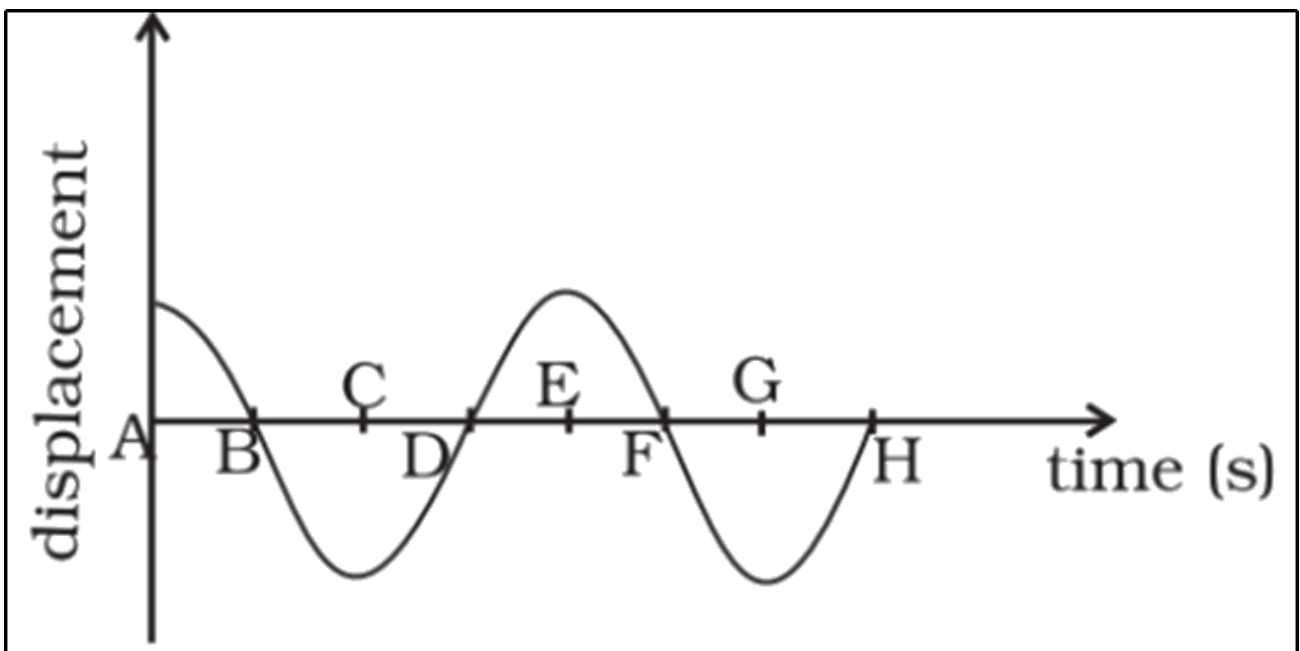
FlexiPrep

NCERT Physics Class 11 Exemplar Ch 14 Oscillations Part 3 (For CBSE, ICSE, IAS, NET, NRA 2022)

Get unlimited access to the best preparation resource for CBSE/Class-8 : [get questions, notes, tests, video lectures and more](#)- for all subjects of CBSE/Class-8.

VSA

19. Displacement versus time curve for a particle executing S. H. M. is shown in Fig. 7. Identify the points marked at which (i) velocity of the oscillator is zero, (ii) speed of the oscillator is maximum.

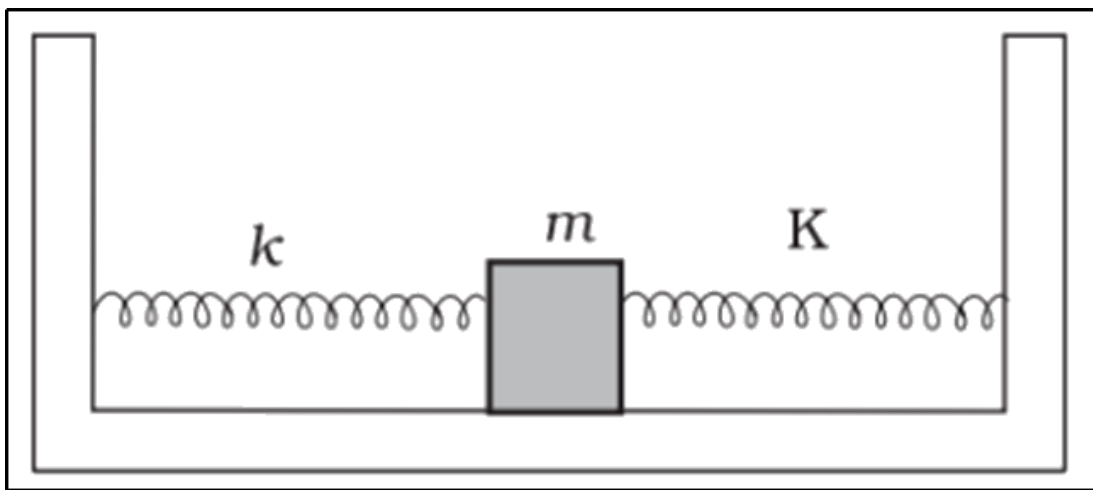


©FlexiPrep. Report ©violations @<https://tips.fbi.gov/>

Ans: (i) (A) , (C) , (E) , (G)

(ii) (B) , (D) , (F) , (H)

20. Two identical springs of spring constant K are attached to a block of mass m and to fixed supports as shown in Fig. When the mass is displaced from equilibrium position by a distance x towards right, find the restoring force



©FlexiPrep. Report ©violations @<https://tips.fbi.gov/>

Ans: $2Kx$ towards left.

21. What are the two basic characteristics of a simple harmonic motion?

Ans: (a) Acceleration is directly proportional to displacement.

(b) Acceleration is directed opposite to displacement.

22. When will the motion of a simple pendulum be simple harmonic?

Ans: When the bob of the pendulum is displaced from the mean position so that $\sin \theta \cong \theta$

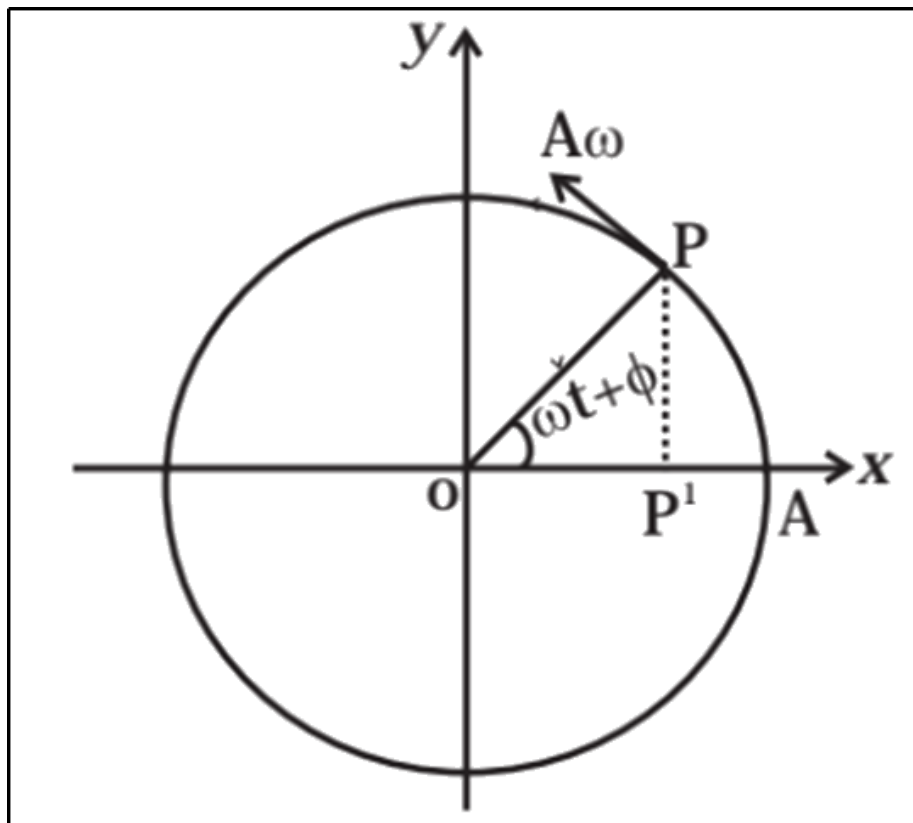
23. What is the ratio of maximum acceleration to the maximum velocity of a simple harmonic oscillator?

Ans: $+\omega$

24. What is the ratio between the distance travelled by the oscillator in one time period and amplitude?

Ans: Four

25. In Fig, what will be the sign of the velocity of the point P' , which is the projection of the velocity of the reference particle P . P is moving in a circle of radius R in anticlockwise direction?



©FlexiPrep. Report ©violations @<https://tips.fbi.gov/>

Ans:-ve

26. Show that for a particle executing S. H. M, velocity and displacement have a phase difference of $\frac{\pi}{2}$.

27. Draw a graph to show the variation of P. E. , K. E. and total energy of a simple harmonic oscillator with displacement.

Ans:

