

PART 1 - PHYSICS

Topic : Gravitation

SECTION-A : (Maximum Marks : 4)

This section contains **ONE** question.

Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is the correct answer.

For each question, choose the option corresponding to the correct answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

1. A particle of mass m , and angular momentum ℓ is moving in a circular orbit of radius r_0 under the influence of an attractive force $\vec{F}(r) = -\frac{k}{r^2} \hat{r}$. Keeping its angular momentum unchanged, the particle is displaced radially by a small distance $\delta r \ll r_0$, due to which its radial distance varies periodically. The corresponding time period is:

[JEE Advanced 2026 Paper 2]

- (A) $\frac{2\pi\ell^3}{mk^2}$ (B) $2\pi\sqrt{\frac{m}{k}}$ (C) $\frac{2\pi\ell^3}{3mk^2}$ (D) $\frac{2\pi\ell^3}{5mk^2}$

Scan or tap for the
full solution



Space for Rough Work

JEE ADVANCED GRAVITATION — GRAVITATIONAL
FIELD AND POTENTIAL — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																									
Ques.	1																								
Ans.	A																								