

Gravitation

NEET previous year questions · Physics

4 questions from the official papers: NEET 2026 (1), Re-NEET 2026 (2), NEET 2020 (1). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



BrainIt

The NEET practice app that learns how you practise and tells you what to do next.

PYQs · Mock tests · Revision · Interactive 3D concepts · Analytics

Get it on
Google Play

Download on the
App Store



brainit.pro/app

1. NEET 2026 · Q13

The amount of work done to raise a mass ' m ' from the surface of the Earth to a height equal to the radius of the Earth ' R ' will be

- (1) $2mgR$ (2) $mg\frac{R}{4}$
(3) mgR (4) $mg\frac{R}{2}$

Answer (4)

Sol. The work done equals the change in gravitational potential energy: $W = U_2 - U_1 = \left(-\frac{GMm}{2R}\right) - \left(-\frac{GMm}{R}\right) = \frac{GMm}{2R}$. Using $g = \frac{GM}{R^2}$, this becomes $\frac{mgR}{2}$, option (4). It is not the naive mgR because gravity weakens with height, so less work is needed than if g stayed constant.

2. Re-NEET 2026 · Q13

Two planets P_1 and P_2 with equal mass have radii R_1 and R_2 , respectively, where $R_2 = \frac{R_1}{2}$. The escape speeds of P_1 and P_2 are v_1 and v_2 , respectively. Then $\frac{v_2}{v_1}$ is:

- (1) $\frac{1}{\sqrt{2}}$ (2) 1
(3) $\sqrt{2}$ (4) 2

Answer (3)

Sol. Escape speed is $v_e = \sqrt{\frac{2GM}{R}}$. With the masses equal, $v_e \propto R^{-1/2}$, so $\frac{v_2}{v_1} = \sqrt{\frac{R_1}{R_2}} = \sqrt{2}$. The denser, smaller planet is harder to escape from, which is the physical sense check. NCERT Class 11, Gravitation (escape speed).

3. Re-NEET 2026 · Q14

In a solar system, the time-period of revolution of a planet tracing a circular orbit of radius R is proportional to:

- (1) $R^{1/2}$ (2) $R^{3/2}$ (3) R^2 (4) R^3

Answer (2)

Sol. Kepler's third law states $T^2 \propto R^3$ for orbits about a common central mass, so $T \propto R^{3/2}$. It also follows directly from equating gravitational and centripetal force: $\frac{GMm}{R^2} = m\omega^2 R$ with $\omega = 2\pi/T$. NCERT Class 11, Gravitation (Kepler's laws).

4. NEET 2020 · Q144

A body weighs 72 N on the surface of the earth. What is the gravitational force on it, at a height equal to half the radius of the earth?

- (1) 32 N (2) 30 N (3) 24 N (4) 48 N

Answer (1)

Sol. The gravitational force at a height h from the Earth's surface is given by $F = \frac{mgR^2}{(R+h)^2}$. For $h = \frac{R}{2}$, $F = \frac{mgR^2}{(R+\frac{R}{2})^2} = \frac{mgR^2}{(\frac{3R}{2})^2} = \frac{4}{9} \times mg$. Since $mg = 72$ N, $F = \frac{4}{9} \times 72 = 32$ N. Chapter: Gravitation.

Questions: official NEET papers set by NTA. Solutions: BrainIt. BrainIt is independent and not affiliated with NTA. Online, with every chapter:
brainit.pro/neet/physics/gravitation/pyq/

AFTER THIS PAPER

Turn this paper into a plan.

BrainIt is a NEET practice app. It learns how you practise and tells you what to do next.

- **PYQs**
Previous-year questions, each with an explanation.
- **Mock tests**
Full and mini mocks on the CBT exam screen.
- **Revision**
Your mistakes come back for review, with flashcards.
- **Interactive concepts**
Learn by exploring 3D models, like the human body and the heart.
- **Analytics**
See your accuracy, speed and where you lose marks.
- **A daily plan**
It picks what to study next, every day.

Get it on

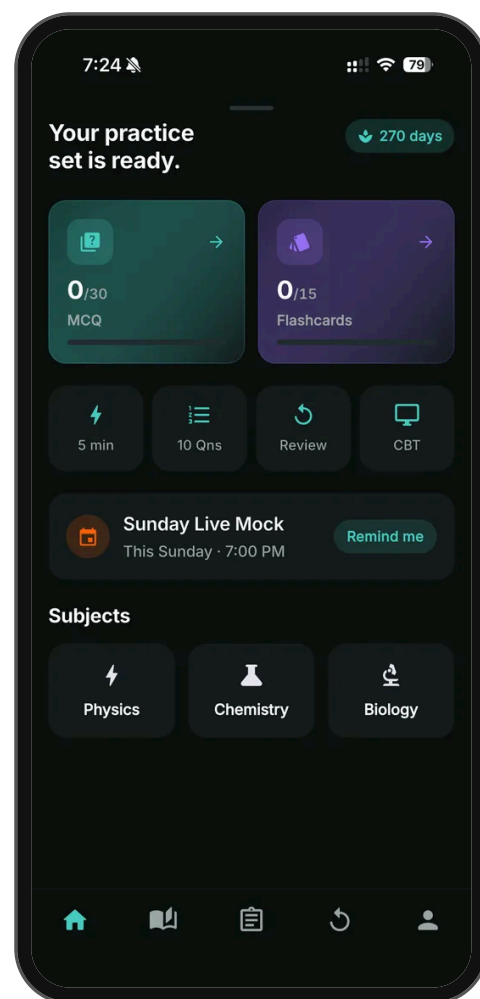
Google Play

Download on the

App Store



Scan with your phone camera,
or type **brainit.pro/app**



Take a free CBT mock

Real NEET questions on the exam screen, timed and marked for you.
No login.