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# NEET GRAVITATION — GRAVITATIONAL POTENTIAL ENERGY — PYQS

**Max. Marks:** 24 **Questions:** 6

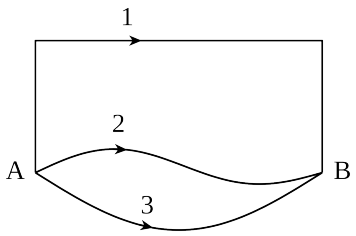
## Section A (MCQ) — 6 questions

**Q.1** 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 : [NEET (UG) 2026]

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

Scan or tap for the full solution

**Q.2** A gravitational field is present in a region and a mass is shifted from A to B through different paths as shown. If $W_1$, $W_2$ and $W_3$ represent the work done by the gravitational force along the respective paths, then : [NEET (UG) 2022 (Phase 2)]




(1) $W_1 < W_2 < W_3$ (2) $W_1 = W_2 = W_3$

(3) $W_1 > W_2 > W_3$ (4) $W_1 > W_3 > W_2$

Scan or tap for the full solution

**Q.3** The work done to raise a mass m from the surface of the earth to a height h, which is equal to the radius of the earth, is : [NEET (UG) 2019]

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

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**Q.4** A body of mass 'm' is taken from the earth's surface to the height equal to twice the radius (R) of the earth. The change in potential energy of body will be [NEET 2013]

(1) 3mgR (2) $\frac{1}{3}$ mgR (3) mg2R (4) $\frac{2}{3}$ mgR

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**Q.5** A body of mass m is placed on earth's surface which is taken from earth surface to a height of h = 3R, then change in gravitational potential energy is [AIPMT 2003]

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

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**Q.6** With what velocity should a particle be projected so that its height becomes equal to radius of earth? [AIPMT 2001]

(1) $\left(\frac{GM}{R}\right)^{1/2}$ (2) $\left(\frac{8GM}{R}\right)^{1/2}$

(3) $\left(\frac{2GM}{R}\right)^{1/2}$ (4) $\left(\frac{4GM}{R}\right)^{1/2}$

Scan or tap for the full solution

## ANSWER KEY

| Ques. | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ans. | 1 | 2 | 3 | 4 | 3 | 1 | | | | | |