

Gravity

Very Short Questions

1. What's the scientific name of human being?
1. Write down the relationship of gravitational force with the distance between two heavenly objects and their masses.
2. What is gravitational constant?
3. Calculate the gravitational force between two masses of 10 kg and 20 kg if they are at 10 meter distance.
4. The earth having the mass 6×10^{24} kg revolves around the sun of mass 2×10^{30} kg in a circular orbit of radius 1.5×10^{11} m. Calculate the force of attraction between them ($G = 6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$).
5. The mass of the earth is 6×10^{24} kg and its radius is 6400 km. What is the mass of a man weighing 977N in a spring balance? (Universal gravitational constant is $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ and use all the given data in the questions.)
6. What will happen to the gravitational force of attraction between two bodies when the mass of each body is doubled and the distance between them is tripled?
7. State Newton's law of Gravitation. Calculate the force with which the moon pulls every kilogram of water in our rivers given that the moon is 3×10^5 km away from Nepal and the mass of the moon is 7×10^{22} kg.
8. What happens to the force between two objects, if the distance between the object is doubled?
9. At what condition the value of gravitational force (F) becomes 6.67×10^{-11} N? Show by calculation.
10. What is gravity?
11. Write the differences between free fall and weightlessness?
12. In which direction the force of gravity act?
13. why the gravity of jupiter is only two times greater that that of earth though it has extremely graeter mass than earth
14. What will be the effect on the gravitational field intensity of the earth if it is squeezed to the size of the moon?
(Given: Radius of the earth = 63.8×10^5 m and radius of the moon = 1.7×10^6 m)