

Demo Preview of Revision PDF File (10 MCQs)

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GK Aim: A Treasure of MCQs

1. Who was the first scientist to propose the universal law of gravitation?

- A. Albert Einstein
- B. Galileo Galilei
- C. Isaac Newton
- D. Johannes Kepler

Correct Answer: C. Isaac Newton

Explanation: Newton first proposed the Universal Law of Gravitation in 1687. Kepler described planetary motion laws but did not explain the force behind them. Galileo studied falling bodies, and Einstein later extended Newton's work with General Relativity.

2. Which of the following statements about gravitational force is correct?

- A. It is always repulsive
- B. It is stronger than the electrostatic force
- C. It acts along the line joining the two masses
- D. It acts only on Earth

Correct Answer: C. It acts along the line joining the two masses

Explanation: Gravitational force is always attractive and acts along the line joining the centers of the two bodies. It is much weaker than electrostatic force but has an infinite range.

3. Which one of the following is a consequence of the universal law of gravitation?

- A. Tides in oceans
- B. Revolution of planets around the Sun
- C. Motion of satellites around Earth
- D. All of the above**

Correct Answer: D. All of the above

Explanation: The law explains planetary motion, satellite motion, and ocean tides. The gravitational pull of the Moon and Sun causes tides, while the Earth–Sun gravitational force keeps planets in orbit.

4. Who gave the three laws of planetary motion that later helped Newton to formulate the law of gravitation?

- A. Copernicus
- B. Kepler**
- C. Galileo
- D. Ptolemy

Correct Answer: B. Kepler

Explanation: Johannes Kepler proposed three empirical laws of planetary motion in the early 17th century. These laws explained how planets orbit the Sun in ellipses, sweep equal areas in equal times, and relate orbital period to distance. Newton later used these to establish the universal law of gravitation.

5. Which ancient philosopher first suggested that every object has a natural place and tends to move toward it?

A. Aristotle

B. Archimedes

C. Pythagoras

D. Plato

Correct Answer: A. Aristotle

Explanation: Aristotle (384–322 BCE) believed that objects have a “natural place” — for example, stones fall to Earth because their natural place is on the ground. This idea dominated for centuries until Galileo and Newton introduced scientific reasoning.

6. Who proposed the heliocentric model of the solar system before Kepler and Newton?

A. Tycho Brahe

B. Ptolemy

C. Copernicus

D. Galileo

Correct Answer: C. Copernicus

Explanation: Nicolaus Copernicus proposed the heliocentric model in the 16th century, placing the Sun at the center of the solar system. This challenged the Ptolemaic Earth-centered model and paved the way for Kepler and Newton.

7. Galileo's experiments on falling bodies showed that:

- A. Heavier objects fall faster than lighter ones
- B. All objects fall at the same rate in vacuum**
- C. The Earth attracts only living things
- D. Falling depends on size not mass

Correct Answer: B. All objects fall at the same rate in vacuum

Explanation: Galileo demonstrated that in the absence of air resistance, objects fall with the same acceleration regardless of mass. This refuted Aristotle's belief that heavier objects fall faster.

8. Which astronomer's precise observations of planetary motion allowed Kepler to formulate his laws?

- A. Newton
- B. Tycho Brahe**
- C. Copernicus
- D. Halley

Correct Answer: B. Tycho Brahe

Explanation: Tycho Brahe made accurate naked-eye observations of planetary positions. After his death, Kepler used Brahe's data to formulate his three laws of planetary motion.

9. The statement "Every object in the Universe attracts every other object with a force" was first mathematically given by:

- A. Newton
- B. Galileo
- C. Kepler
- D. Copernicus

(Correct Answer: A. Newton

(Explanation: Newton's universal law of gravitation (1687) was the first to mathematically describe the gravitational attraction between all objects with mass.

10. Which concept by Galileo was crucial for Newton's first law of motion?

- A. Natural place of objects
- B. Inertia of rest and motion
- C. Epicycles of planets
- D. Crystal spheres of stars

(Correct Answer: B. Inertia of rest and motion

(Explanation: Galileo introduced the concept of inertia, showing that objects continue in motion unless acted upon by external forces. Newton later incorporated this into his First Law of Motion, forming a basis for gravitation studies.

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