Calcium Chemistry Questions with Solutions

Q1. Which part of the human body is responsible for absorbing calcium?
(a) Duodenum
(b) Oesophagus
(c) Mouth cavity
(d) None of the above
Answer: (a) Duodenum is responsible for absorbing calcium in the human body.

Q2. Which of the following can increase the rate of calcium absorption in the human body?
(a) Acidic medium
(b) Alkaline medium
(c) Parathyroid hormone
(d) None of the above
Answer: (c) Parathyroid hormone can increase the rate of calcium absorption in the human body.

Q3. Which of the following can decrease the rate of calcium absorption in the human body?
(a) High dietary fibre
(b) Acidic medium
(c) Alkaline medium
(d) None of the above
Answer: (a) High dietary fibre can decrease the rate of calcium absorption in the human body.

Q4. Calcium is responsible for
(a) Muscle contraction
(b) Blood coagulation
(c) Nerve conduction
(d) All of the above
Answer: (d) Calcium is responsible for muscle contraction, blood coagulation and nerve conduction.

Q5. CASR is the abbreviation of _____.
(a) Calcium sensing receptor
(b) Calcium separating ratio
(c) Calcium suppressor ratio
(d) None of the above
Answer: (a) CASR is the abbreviation of the calcium sensing receptor.

Q6. Which of the following hormone is associated with increased calcium excretion via urine?

(a) Growth hormone
(b) FSH hormone
(c) LH hormone
(d) None of the above
Answer: (a) Growth hormone is associated with increased calcium excretion via urine.

Q7. What is calcium?
Answer: Calcium is a macromineral, i.e. is required in large amounts by the human body. Calcium plays an important in blood clotting, muscle contraction, regulating normal heart rhythms and functioning nerves. It is often linked with healthy bones. Around 99% of the body's calcium is stored in human bones, and the remaining 1% is stored in muscles, blood and other tissues.

Q8. How much calcium does a body need?
Answer: Calcium is a macromineral, i.e. is required in large amounts by the human body. It is often associated with healthy bones. The amount of calcium a body needs depends on an individual's age.
1. An infant of age 0 to 6 months requires 200 mg of calcium.
2. An infant of age 6 to 12 months requires 260 mg of calcium.
3. An infant of age 1 to 3 years requires 700 mg of calcium.
4. A child of age 4 to 8 years requires 1000 mg of calcium.
5. A child of age 9 to 18 years requires 1300 mg of calcium.
6. An adult of age 19 to 50 years requires 1000 mg of calcium.
7. An adult of age 51 to 70 years requires 1200 mg of calcium.
8. An adult above 70 years requires 1200 mg of calcium.

Q9. What interferes with the absorption of calcium in the human body?
Answer: Calcium is a macromineral, i.e. is required in large amounts by the human body. It is often associated with healthy bones. The following factors can interfere with calcium absorption in the human body.
1. Consuming high amounts of caffeine can hinder calcium absorption in the human body.
2. Consuming high amounts of sodium (table salt) can hinder calcium absorption in the human body.
3. Consuming too much dietary fibre can hinder calcium absorption in the human body.
4. Consuming a lot of soft drinks can hinder calcium absorption in the human body. Soft drinks have phosphates inside them which alter the calcium absorption in the body.
5. Few medicines like tetracycline and antacid containing aluminium hinder calcium absorption in the human body.

Q10. What are the signs of calcium deficiency in the human body?
Answer: Calcium is a macromineral, i.e. is required in large amounts by the human body. It is often associated with healthy bones. The following symptoms will be observed if a person is calcium deficient.
1. Muscle cramps in hands and feet or weakness.

2. Osteoporosis
3. Humping of back
4. Abnormal heart rate
5. Poor appetite

Q11. Who is at the most risk of calcium deficiency?
Answer: Calcium is vital for healthy bones. There is a particular population that is at peak risk of calcium deficiency. They are
1. People with lactose intolerance.
2. Postmenopausal women.
3. Vegan people, i.e., those who avoid animal and dairy products.
4. People who are on certain medications.
5. People with inflammatory bowel, parathyroid disorders, or liver or kidney disease.

Q12. What are the side effects of consuming excess calcium?
Answer: Calcium is an essential micromineral. However, extra calcium can affect our health. It can cause
1. A high level of calcium can cause kidney stones.
2. A high level of calcium can cause the calcification of soft tissues and blood vessels.
3. A high level of calcium can cause constipation or bloating problems.

Q13. Match the following.

Column I	Column II
Calcium	Muscular Fatigue
Sodium	Anaemia
Potassium	Osteoporosis
Iron	Goitre
Iodine	Muscular cramps

Answer:

Column I	Column II
Calcium	Osteoporosis
Sodium	Muscular cramps
Potassium	Muscular Fatigue
Iron	Anaemia

Iodine	**Goitre**

Q14. Match the following.

Column I	Column II	Column III
Calcium	**Thyroxin**	**Milk**
Iron	**Strengthens our teeth and bones**	**Kelp**
Iodine	**Hemoglobin - oxygen transport**	**Kheer, Jaggery**

Answer:

Column I	Column II	Column III
Calcium	**Strengthens our teeth and bones**	**Milk**
Iron	**Hemoglobin - oxygen transport**	**Kheer, Jaggery**
Iodine	**Thyroxin**	**Kelp**

Q15. How can I raise my calcium level quickly?
Answer: Calcium is an essential macromineral required by the human body in large amounts. We can quickly increase the amount of calcium in our body by increasing the amount of calcium we consume. We can include the following food items to increase our calcium levels.
1. **Dairy products** like milk, yoghurt, cheese, and calcium-rich drinks like almond and soy milk.
2. **Dark-green leafy vegetables** such as spinach, broccoli, turnip leaves, watercress, and kale.
3. **Nuts and seeds** such as almonds, sesame, and chia seeds.

Practise Questions on Calcium

Q1. Why do we need calcium?
Answer: Calcium is an essential macromineral. It is required in large amounts by the human body. Calcium plays an important in blood clotting, muscle contraction, regulating normal heart rhythms and functioning nerves. It is often linked with healthy bones.
It is also required for sustaining healthy communication between the brain and other parts of the body. It plays a critical role in muscle movement, lowering high blood pressure, and improving cholesterol values and cardiovascular functioning.

Because of the benefits mentioned above of calcium, our body requires calcium.

Q2. What are the top 3 sources of calcium?
Answer: Calcium is an essential macromineral. It is needed in large amounts by the human body. We can complete our calcium intake from the following sources.
1. **Dairy products** like milk, yoghurt, cheese, and calcium-rich drinks like almond and soy milk.
2. **Dark-green leafy vegetables** such as spinach, broccoli, turnip leaves, watercress, and kale.
3. **Nuts and seeds** such as almonds, sesame, and chia seeds.

Q3. What happens if you don't get enough calcium?
Answer: Calcium is an essential macromineral. It is needed in large amounts by the human body. If you do not consume enough calcium, your body takes calcium from your bones. This decreases the mass of the bones and puts you at risk of osteoporosis. Inadequate calcium intake may also increase your risk for high blood pressure.

Q4. How can you complete your calcium intake if you are lactose intolerant?
Answer: We can achieve our calcium intake if lactose intolerant by
1. Consuming lactose-free milk, calcium-fortified soy, almond, or rice milk.
2. Consuming dairy products that contain less milk sugar, such as yoghurt and cheese.
3. Consuming lactose-free or low lactose cheese, cottage cheese, or lactose-free yoghurt.
4. Consuming calcium-rich non-dairy foods, like broccoli, dried peas, beans, kale, collard, dark green leafy vegetables, sardines, calcium-enriched fruit juice, and blackstrap molasses, almonds, and tofu processed with calcium.

Q5. What are the side effects of calcium supplements?
Answer: Consuming calcium supplements can cause the following side effects.
1. Bloating
2. Constipation
3. Gas