

### SECTION 1 — MULTIPLE CHOICE

1. 99% of calcium in the body is found in:

- A. Soft tissues
- B. Skeleton and teeth
- C. Blood plasma
- D. Pancreatic fluid

2. Calcium and phosphorus form:

- A. Ceruloplasmin
- B. Phytate
- C. Hydroxyapatite crystals
- D. ADP

3. Rickets is:

- A. Excess calcium in bone
- B. Failure of cartilage to ossify
- C. Magnesium toxicity
- D. Excess iodine

4. Milk Fever occurs because:

- A. Ca becomes too high
- B. Ca cannot mobilize fast enough after calving
- C. K becomes too low
- D. P becomes unavailable

5. Phytase increases digestibility of:

- A. Calcium
- B. Phytate phosphorus
- C. Magnesium
- D. Sulfur

6. The general Ca:P ratio is:

- A. 1:1
- B. 2:1
- C. 4:1
- D. 10:1

7. Grass tetany is caused by low:

- A. Ca
- B. P
- C. Mg
- D. Zn

## Mineral Test Prep

8. The Na/K pump maintains:
- A. Bone density
  - B. Membrane potential
  - C. Collagen formation
  - D. Vitamin B12 synthesis
9. Iodine deficiency leads to:
- A. Pica
  - B. Goiters
  - C. Blind staggers
  - D. Parakeratosis
10. Copper toxicity is most common in:
- A. Swine
  - B. Sheep
  - C. Poultry
  - D. Horses
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## SECTION 2 — FILL IN THE BLANK

11. Most calcium exists in a : **ratio** with phosphorus.
12. Osteomalacia occurs in \_\_\_\_ animals.
13. The paralysis in Milk Fever is caused by **low** \_\_\_\_ **levels**.
14. About / of phosphorus in grains is unavailable to non-ruminants.
15. Phytase allows dietary phosphorus to be reduced by \_\_\_\_%.
16. Roughages are high in Ca and \_\_\_\_ in P.
17. High Ca:P ratios (>3:1) can decrease \_\_\_\_ **intake**.
18. Fifty percent of body Mg is found in the \_\_\_\_.
19. The electrolyte mostly found **inside** cells is \_\_\_\_.
20. Zinc deficiency in pigs causes \_\_\_\_.
21. Iron deficiency is most prominent in \_\_\_\_ animals.
22. Selenium is part of the enzyme \_\_\_\_ **peroxidase**.

## Mineral Test Prep

23. High sulfur levels can cause \_\_\_\_ **disease** (blind staggers).

24. Cobalt is needed for synthesis of vitamin \_\_\_\_.

25. Chelated minerals are chemically bound to a \_\_\_\_.

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WORD BANK FOR FILL IN THE BLANK:

Parakeratosis

2/1

Protein

Newborn

Feed

Bone

Potassium

0.1%

B12

Low

Calcium

Glutathione

2/3

Alkali

Adult