Multiple Choice & True/False Questions

1. **Excess dietary calcium in relation to phosphorus causes:**
   A. Increased Ca absorption
   B. Ca phosphate formation which is insoluble **(Correct)**
   C. Higher P absorption
   D. Vitamin D toxicity

2. **Excess dietary phosphorus in relation to calcium leads to:**
   A. Greater Ca absorption
   B. Ca incorporated into Ca phosphate salt **(Correct)**
   C. Bone softening
   D. Increased milk yield

3. **Nutritional secondary hyperparathyroidism can result from:**
   A. Excess calcium
   B. Excess phosphorus **(Correct)**
   C. Lack of sulfur
   D. Low magnesium

4. **Urinary calculi may result from:**
   A. Excess dietary phosphorus **(Correct)**
   B. Vitamin E deficiency
   C. Low sodium
   D. Low chloride

5. **About 50% of the body's magnesium is found in:**
   A. Muscle
   B. Bone **(Correct)**
   C. Blood
   D. Hair

6. **More than 300 enzymes are activated by:**
   A. Calcium
   B. Magnesium **(Correct)**
   C. Potassium
   D. Iron

7. **Hypomagnesemia (grass tetany) occurs mainly in:**
   A. Horses on dry hay
   B. Cattle on lush, rapidly growing pasture **(Correct)**
   C. Pigs in confinement

D. Poultry on high-protein diets

8. **Providing trace mineral supplements with magnesium helps prevent:**
   A. Anemia
   B. Grass tetany **(Correct)**
   C. Goiters
   D. Milk fever

9. **Electrolytes help maintain:**
   A. Vision and hearing
   B. Osmotic pressure and acid-base balance **(Correct)**
   C. Bone density
   D. Protein synthesis

10. **Sodium and chloride are mainly:**
    A. Intracellular components
    B. Extracellular components **(Correct)**
    C. Enzymes
    D. Hormones

11. **Potassium is primarily an:**
    A. Extracellular component
    B. Intracellular component **(Correct)**
    C. Enzyme activator
    D. Hormone

12. **The Na/K pump helps maintain:**
    A. Membrane potential **(Correct)**
    B. Blood calcium levels
    C. Thyroid function
    D. Vitamin transport

13. **Deficiencies in potassium, sodium, or chlorine cause:**
    A. Hair loss
    B. Depressed growth **(Correct)**
    C. Fever
    D. Bone deformities

14. **Equine HYPP Disease is also known as:**
    A. Grass tetany
    B. Impressive Syndrome **(Correct)**
    C. Blind staggers
    D. Alkali disease

15. **Equine HYPP is caused by:**
    A. Copper deficiency
    B. Inherited genetic mutation (dominant) **(Correct)**
    C. Excess sulfur
    D. Iodine deficiency

16. **Inorganic sulfur is:**
    A. Essential for normal function
    B. Not essential for normal productive function **(Correct)**
    C. A hormone
    D. A vitamin

17. **Sulfur-containing amino acids and vitamins are:**
    A. Inorganic
    B. Organic metabolites **(Correct)**
    C. Enzymes
    D. Hormones

18. **N:S ratio for total diet in ruminants should be:**
    A. 5:1
    B. 10:1 **(Correct)**
    C. 1:1
    D. 2:1

19. **Excess sulfur can tie up:**
    A. Copper **(Correct)**
    B. Calcium
    C. Iron
    D. Sodium

20. **Polioencephalomalacia (feedlot disease) is associated with:**
    A. Excess sulfur **(Correct)**
    B. Lack of zinc
    C. Vitamin E toxicity
    D. Sodium deficiency

21. **Cobalt is a structural component of:**
    A. Vitamin A
    B. Vitamin B12 **(Correct)**
    C. Vitamin D
    D. Vitamin K

22. **Cobalt deficiency in ruminants causes:**
    A. Goiter

B. Anemia **(Correct)**
C. Muscle dystrophy
D. Hair loss

23. **Iodine is a component of which hormones?**
A. Estrogen
B. T3 and T4 **(Correct)**
C. Insulin
D. Cortisol

24. **Iodine deficiency causes:**
A. Goiters **(Correct)**
B. Tetany
C. Anemia
D. Bone deformities

25. **Zinc deficiency causes:**
A. Parakeratosis **(Correct)**
B. Blind staggers
C. Goiters
D. Milk fever

26. **High calcium levels can interfere with absorption of:**
A. Zinc **(Correct)**
B. Iron
C. Sulfur
D. Manganese

27. **Iron is mostly found in:**
A. Liver
B. Hemoglobin and myoglobin **(Correct)**
C. Stomach
D. Pancreas

28. **Copper deficiency is most common in:**
A. Pigs
B. Ruminants **(Correct)**
C. Horses
D. Poultry

29. **Selenium functions as a(n):**
A. Antioxidant **(Correct)**
B. Hormone
C. Electrolyte

D. Vitamin

30. **Chromium potentiates the action of:**
    A. Vitamin D
    B. Insulin **(Correct)**
    C. Calcium
    D. Thyroxine