i. **Distinguishing Between Various Rations**:

1. **Balanced Ration**:
   - Purpose: Designed to meet all nutritional requirements of the animal for maintenance, growth, and other physiological functions.
   - Composition: Contains all essential nutrients in appropriate proportions.
   - Application: Suitable for animals at all stages of life, including growth, maintenance, reproduction, and performance.
2. **Maintenance Ration**:
   - Purpose: Formulated to maintain the animal's current body weight, energy levels, and basic physiological functions.
   - Composition: Provides sufficient energy and nutrients for essential bodily functions without promoting weight gain or loss.
   - Application: Suitable for adult animals that are not actively growing, reproducing, or engaged in intense physical activity.
3. **Production Ration**:
   - Purpose: Geared towards meeting increased nutritional demands during periods of growth, reproduction, lactation, or high-performance activities.
   - Composition: Contains higher levels of energy, protein, vitamins, and minerals to support enhanced growth, production, or work output.
   - Application: Used for animals during specific stages of production such as lactation, gestation, growth, or performance activities like racing or working.

ii. **Nutrients Constituting Various Rations**:

1. **Carbohydrates**:
   - Found in grains, forages, and concentrates.
   - Provide energy for metabolic processes and physical activities.
2. **Proteins**:
   - Found in sources like soybean meal, fishmeal, and alfalfa.
   - Essential for growth, tissue repair, and production of enzymes and hormones.
3. **Fats**:
   - Found in oils, seeds, and animal fats.
   - Concentrated source of energy, important for maintaining body condition and reproductive functions.
4. **Vitamins**:
   - Found in green forages, grains, and vitamin supplements.
   - Essential for various metabolic processes, immune function, and overall health.
5. **Minerals**:
   - Found in sources like salt, limestone, and mineral supplements.
   - Required for bone formation, muscle function, nerve transmission, and other physiological processes.
6. **Water**:
   - Essential for digestion, nutrient absorption, temperature regulation, and overall hydration.
   - Provided through drinking water and moisture in feed ingredients.