2024 END-OF-SEMESTER EXAMS – ANIMAL HUSBANDRY 2 SOLUTION
ANIMAL HUSBANDRY
CLASS: SHS ONE
SECTION B

1a. Problems facing animal production in Ghana:

1. **Disease Outbreaks:** Infectious diseases such as African Swine Fever, Newcastle disease, and Avian Influenza pose significant threats to animal health and production in Ghana. Lack of adequate veterinary services and infrastructure exacerbates the challenge of controlling and managing these diseases.
2. **Poor Breeding Practices:** Limited access to quality breeding stock and inadequate breeding management practices hinder genetic improvement and productivity in livestock populations. Inbreeding and genetic erosion are common issues, leading to decreased performance and resilience in animals.
3. **Limited Access to Inputs:** Farmers often face challenges in accessing essential inputs such as feed, vaccines, medications, and veterinary services. This limitation affects animal health, productivity, and overall farm profitability.
4. **Environmental Degradation:** Deforestation, land degradation, and water pollution contribute to environmental challenges that directly impact animal production systems. Loss of grazing lands, water scarcity, and exposure to pollutants affect the well-being and productivity of livestock.
5. **Lack of Infrastructure and Technology:** Inadequate infrastructure, including roads, storage facilities, and processing plants, hinders the development of efficient value chains for animal products. Additionally, limited adoption of modern technologies such as improved breeds, mechanization, and digital solutions constrains productivity and competitiveness in the sector.

1b. Domestic animals:

1. Cattle
2. Sheep
3. Goats
4. Pigs
5. Chickens

1c. Job opportunities in studying animal husbandry:

1. **Veterinary Services:** Veterinarians provide healthcare services to animals, including diagnosis, treatment, and disease prevention. They work in private clinics, government agencies, research institutions, and animal production facilities.
2. **Livestock Farm Management:** Animal husbandry graduates can work as farm managers or supervisors, overseeing day-to-day operations such as feeding, breeding, health management, and marketing of livestock products.
3. **Animal Nutritionist:** Professionals in animal nutrition formulate balanced diets and feeding programs for various livestock species to optimize growth, reproduction, and overall performance.
4. **Livestock Extension Officer:** Extension officers educate farmers on best practices in animal husbandry, including breeding, nutrition, disease control, and sustainable production techniques. They work for government agencies, NGOs, or private companies.
5. **Livestock Marketing and Sales:** Graduates can pursue careers in marketing and sales of livestock and related products, working for feed companies, pharmaceutical firms, meat processing plants, or agricultural marketing boards.

2a. Groups of bones found in the vertebral column of a pig:

1. **Cervical Vertebrae:** Found in the neck region, providing flexibility and support to the head.
2. **Thoracic Vertebrae:** Attached to the ribs, forming the thoracic cage and providing support for the chest and upper body.
3. **Lumbar Vertebrae:** Located in the lower back, supporting the abdominal region and facilitating movement.
4. **Sacral Vertebrae:** Fused vertebrae forming the sacrum, connecting the spine to the pelvic bones.
5. **Caudal Vertebrae:** Found in the tail region, providing support and flexibility for tail movement.

2b. Reasons for keeping farm animals:

1. **Food Production:** Farm animals are a vital source of protein and other essential nutrients for human consumption, including meat, milk, and eggs.
2. **Income Generation:** Rearing animals can provide a steady source of income through the sale of livestock, meat, dairy products, wool, hides, and other by-products.

3. **Soil Fertility and Crop Production:** Livestock manure serves as organic fertilizer, enriching soil fertility and improving crop yields in integrated farming systems.
4. **Diversification and Risk Management:** Integrating livestock into farming systems diversifies income sources and spreads risk, especially in areas prone to crop failures or market fluctuations.
5. **Cultural and Social Significance:** Farm animals play important cultural and social roles in many communities, contributing to traditions, rituals, and social cohesion.

3a. Benefits of rearing animals:

1. **Nutritional Security:** Rearing animals provides a sustainable source of high-quality protein and essential nutrients, contributing to improved nutrition and food security for households and communities.
2. **Income Generation:** Animal husbandry offers opportunities for income generation through the sale of livestock, meat, dairy products, and other by-products, enhancing household livelihoods and economic resilience.
3. **Employment Creation:** The livestock sector creates employment opportunities along the value chain, including farming, processing, marketing, veterinary services, and research, thereby reducing unemployment and poverty.
4. **Soil Fertility and Agroecology:** Livestock contribute to soil fertility through manure deposition, enhancing soil health, structure, and nutrient cycling in integrated farming systems. Grazing animals also play a role in maintaining grasslands and agroecosystem balance.
5. **Social and Cultural Values:** Animal rearing fosters cultural traditions, social cohesion, and community identity, preserving indigenous knowledge and practices related to livestock management and husbandry.

3b. Sequence in the avian digestive system:

1. vii. Oesophagus
2. iii. Crop
3. iv. Proventriculus
4. v. Gizzard
5. i. Small intestine
6. ii. Caecum
7. vi. Anus