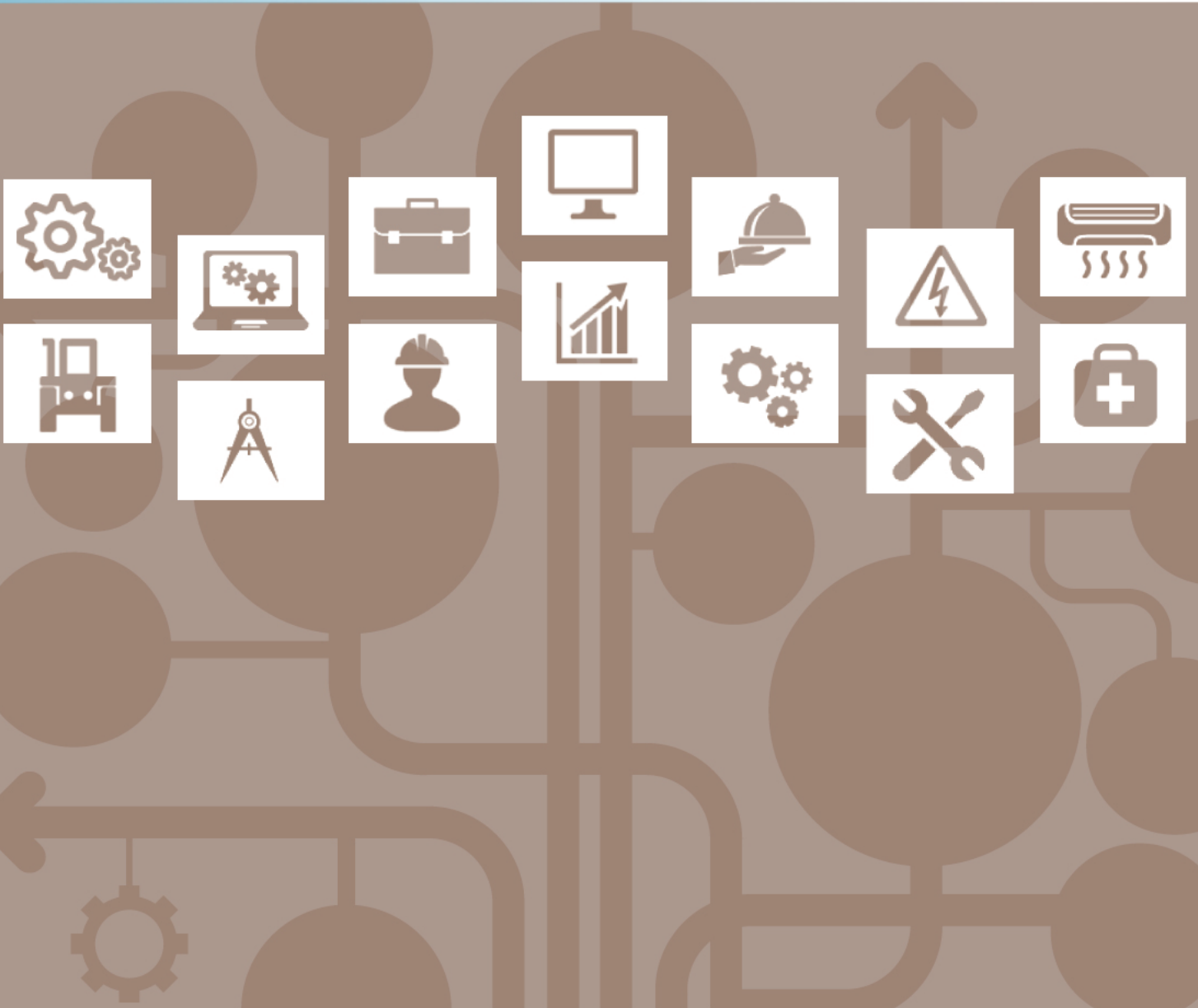


Entry Level Assessment Blueprint

Production Agriculture



Specific Competencies and Skills Tested in this Assessment:

Animal Science

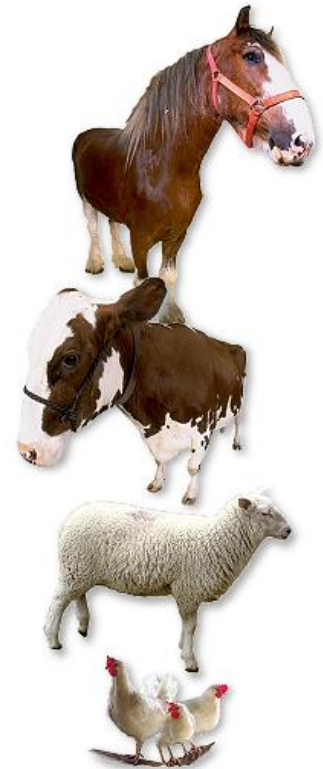
- Maintain animal health sanitation
- Describe anatomy and physiology
- Explain grading and judging
- Describe handling and shipment of animals and products
- Explain genetics and breeding
- Describe feeds and feeding
- Describe specific beef production operations, including breeds and types
- Describe specific dairy operations, including breeds and types
- Describe specific poultry operations, including breeds and types
- Describe specific equine operations, including breeds and types
- Describe specific aquaculture operations, including breeds and types
- Describe specific small animal operations, including breeds and types
- Describe specific swine operations, including breeds and types
- Describe specific sheep/goat operations, including breeds and types

Conservation and Sustainable Natural Resources

- Conserve and protect water, land, and soil resources
- Recycle and manage waste products
- Research and develop new, renewable energy sources, including biofuels

Plant Science

- Describe plant anatomy and physiology
- Describe taxonomy and plant identification
- Explain plant genetics, breeding, and propagation
- Formulate, mix, and properly handle agricultural chemicals
- Identify plant pests and practice pest control
- Identify and classify plant diseases
- Calculate fertilizer rates and costs
- Determine populations and planting rates
- Discuss harvesting and storage of crops
- Identify plant nutrient requirements



Specific Competencies and Skills continued:

Soil Management

- Describe preparation of land for efficient cropping
- Exhibit knowledge of land judging and soil management concepts
- Identify and discuss soil tests and various amendments

Agricultural Technology

- Explain safe use and maintenance of tools and equipment
- Perform calculations and measurements used in agricultural technology
- Describe basic welding, electrical, plumbing, and carpentry practices
- Explain maintenance of agricultural and livestock containment structures
- Operate, maintain, and service engines
- Safely operate, maintain, and repair agricultural machinery



Agri-Business

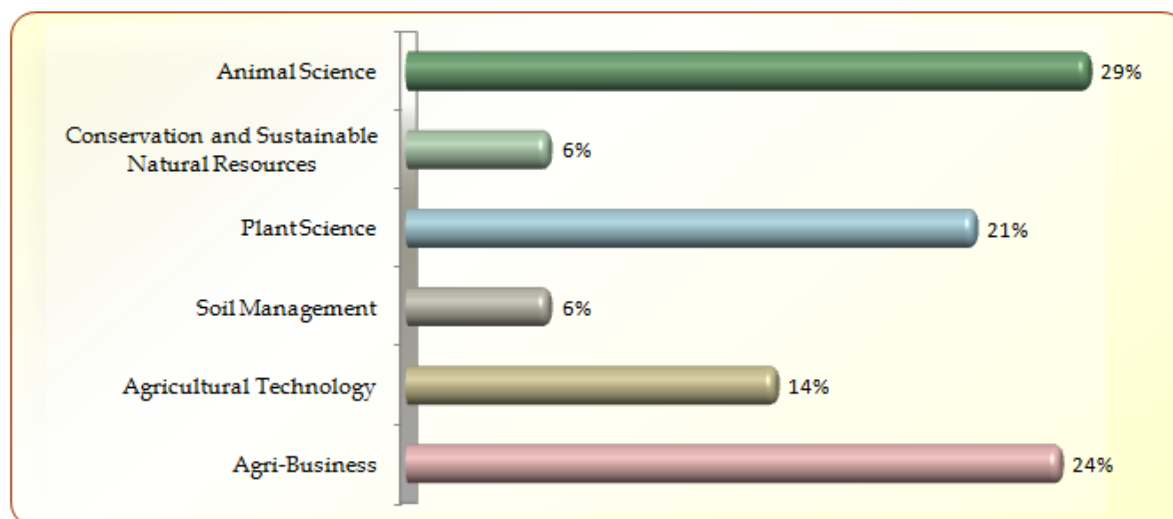
- Identify sources of credit
- Use appropriate tax management skills
- Describe types of farm businesses and enterprises, including cooperatives
- Identify assets, liabilities, and net worth
- Calculate net worth, income and expenses, and cash flow statements
- Identify fixed and variable costs
- Compute market values of livestock and costs of ownership
- Interpret and apply analysis of financial tools and recordkeeping systems
- Determine factors of risk management
- Identify marketing and distribution networks, channels, and processes
- Identify agricultural-based sales and marketing skills
- Identify principles of agri-business economics, including supply/demand
- Describe career opportunities and advancement pathways

Written Assessment:

Administration Time: 3 hours

Number of Questions: 187

Areas Covered:



Sample Questions:

An injection placed in the vein is called

- A. subcutaneous
- B. intramuscular
- C. intravenous
- D. intraperitoneal

A tap root system is found in

- A. barley
- B. wheat
- C. rice
- D. alfalfa

An alkaline soil has a pH of

- A. 2
- B. 4
- C. 5
- D. 8

Most farm accidents and injuries are caused by

- A. machinery
- B. tools
- C. chemicals
- D. carelessness

Return on investment is the longest for

- A. dairy cattle
- B. poultry (broilers)
- C. poultry (layers)
- D. beef cattle

Performance Assessment:

Administration Time: 3 hours and 5 minutes

Number of Jobs: 6

Areas Covered:

20% **Vehicle Maintenance**

Record vehicle make, model, check oil, determine if engine needs oil; record fuel gauge reading, recommended tire inflation psi, actual tire psi; check engine coolant level, determine if engine needs coolant; vehicle maintenance worksheet; return work area to original condition; and time to complete Job 1.

28% **Calculate Net Worth**

Identify and list current assets, intermediate assets, long term assets; calculate and list total assets; identify and list current liabilities; determine absence of intermediate liabilities; identify and list long term liabilities, calculate and list total liabilities, net worth, total liabilities, and capital; calculate and list current capital ratio, and time to complete Job 2.

14% **Determine Genotypes and Phenotypes (Punnett Square)**

Punnett square completion, identify four phenotypes, list the six genotypes and number of each, and time to complete Job 3.

6% **Crop Leaf Identification**

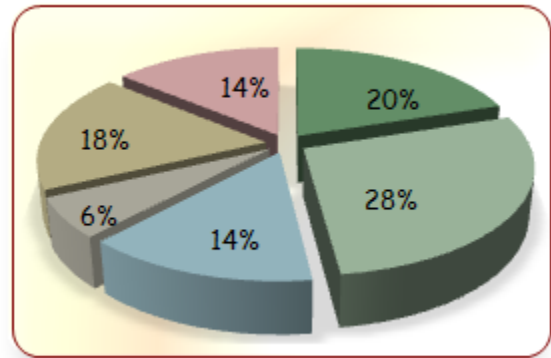
Crop leaf identification and time to complete Job 4.

18% **Administer an Injection**

Determine appropriate medication dosages, and appropriate medication to administer; select appropriate syringe, and needle size; prepare syringe, draw proper dosage; identify and prepare injection site; administer injection intramuscularly; dispose of needle and syringe; and time to complete Job 5.

14% **Compute Acreage**

Compute and record total acreage, corn acreage, potato acreage, and wheat acreage, and time to complete Job 6.



Sample Job: Compute Acreage

Maximum Time: 30 minutes

Participant Activity: The participant will use a diagram provided to calculate total acreage and calculate the amount of acreage that is used for corn, wheat, and potatoes.

