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**Course Code:** ANA 314

**1. Comparative Anatomy:**

**Comparative anatomy** is the study of similarities and differences in the **anatomy** of different species. It is closely related to evolutionary biology and phylogeny (the evolution of species).

The study of **comparative anatomy** predates the modern study of **evolution**.

**2. Criteria necessary to caring for Laboratory Animals:**

* Access to species appropriate food and water
* Access to species-specific housing, including appropriate temperature and humidity.
* Access to humane care and a program of veterinary care.
* Animal housing that minimizes the development of abnormal behaviors.
* Adherence to principles of replacement, refinement, and reduction in the de-sign of in vivo or ex vivo studies.
* Review of study design and purpose by institutional ethical review panel.
* Commitment to minimizing pain and distress to the animal during in vivo and ex vivo studies.
* Work performed by staff trained to conduct the procedures for which they are responsible.
* Documented and verified training.
* Processes in place to minimize animal use.
* Proper animal handling is an essential part of good animal husbandry.
* It benefits the animals you care for, creates a desirable working atmosphere, and benefits the customers you serve.
* Proper handling techniques help maintain production quality and effectively reduces stress on animals and people.
* It also reduces stress on facilities and equipment and leads to better management of your farm or ranch.

3**. Highlight the similarities and differences between the digestive system of amphibians and man.**

**Similarities**

* They both contain the following digestive organs; mouth, esophagus, pharynx, stomach, small intestine and large intestine.
* Both the stomach of man and amphibians store food and mixes it with enzymes to begin digestion.
* The teeth of both animals are used for the mastication of food.
* They both have rectum

**Differences**

|  |  |
| --- | --- |
| **Mammals (Man)** | **Amphibian (frog)** |
| That of man is not sticky therefore can not be used for catching prey. | The tongue of frog is sticky, used for catching prey  |
| In man it doesn’t | In amphibians the large intestine terminates in the cloaca |
| Humans have strong teeth. They use their teeth to chew food | Frogs do not have strong teeth. They use their teeth to hold |
| The tongue of the human is attached to the back of the mouth | The tongue of the frog is attached to the starting point of the mouth |
| Humans have a long small intestine. It has three parts: duodenum, jejunum, and ileum | Frogs have a shorter small intestine. The two parts of the small intestine of the frog are duodenum and ileum |
| The elimination of undigested materials occur through rectum | The elimination of undigested materials occur through cloaca |
| Humans have appendix | Frog does not have appendix |