

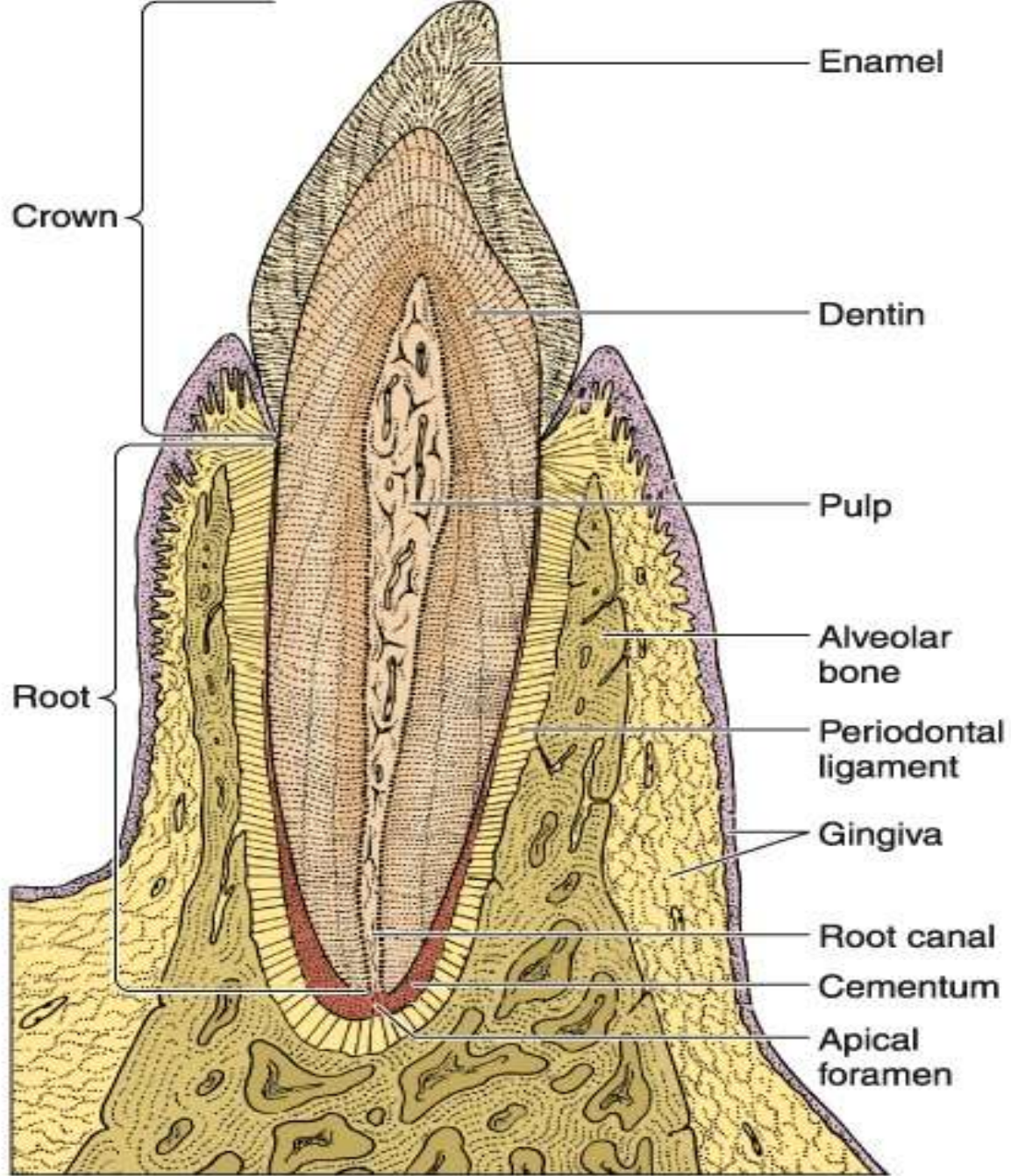
teeth

- *It's conical structures situated on opposing rows in the oral cavity.
- *Each tooth is composed of a portion that projects above the gingiva—the **crown**.
- ***roots** below the gingiva that hold the teeth in bony sockets called alveoli.
- ***Neck:** the area between the crown and the root.
- *The crown is covered by the extremely hard **enamel** and the roots by another mineralized tissue, the **cementum**.

*The bulk of a tooth is composed of another calcified material, **dentin**, that surrounds a soft connective tissue-filled space known as the **pulp cavity**.

*The pulp cavity has a coronary portion (the **pulp chamber**) and a root portion (the **root canal**), extending to the apex of the root, where an orifice (**apical foramen**) permits the entrance and exit of blood vessels, lymphatics, and nerves of the pulp cavity.

*The **periodontal ligament** is a fibrous connective tissue with bundles of collagen fibers inserted into the cementum and alveolar bone, fixing the tooth firmly in its bony socket (alveolus).



*The dentition of domestic mammals is classified as:-

1-Heterodont:- there are several groups of teeth, each possessing certain characteristics adapted to specific functions. Incisor for cutting, canines for tearing, premolars and molars for shred or in most cases grind the food.

2-Diphyodont:- in that they possess a temporary set of teeth which erupts early in life and is replaced by a permanent set.

*The deciduous teeth are also known as temporary, milk or baby teeth.

*The basic dental formula for deciduous teeth is 4

$$2(Di_{3}^{3}, Dc_{1}^{1}, Dp_{3}^{3}) = 28.$$

*Permanent teeth or secondary teeth.

The incisors are most rostral in position, followed in turn by canine, premolars and molars. The premolars and molars may be considered together as cheek teeth.

*Generally there are three incisors, one canines, four premolars and three molars in each jaw on each side.

*The dental formula indicating the number of teeth in each group above and below. Starting with the incisors and ending with the molars.

$$2(I_{3}^{3}, C_{1}^{1}, P_{4}^{4}, M_{3}^{3}) = 44.$$

*Incisors teeth are present in nearly all mammalian groups; however the upper ones are absent in various ungulates.

*The canine teeth are prominent in carnivores but are reduced in size or may even be absent in some ungulates. They are absent in rodents.

*The cheek teeth retain nearly their full number and are flattened for grinding in ungulate.

*The formula for the deciduous teeth of the horse is : $2(Di\frac{3}{3}, Dc\frac{0}{0}, Dp\frac{3}{3}) = 24$.

*The formula for the permanent teeth of the horse is: $2(I\frac{3}{3}, C\frac{1}{1}, P\frac{3\text{ or }4}{3}, M\frac{3}{3}) = 40 \text{ or } 42$.

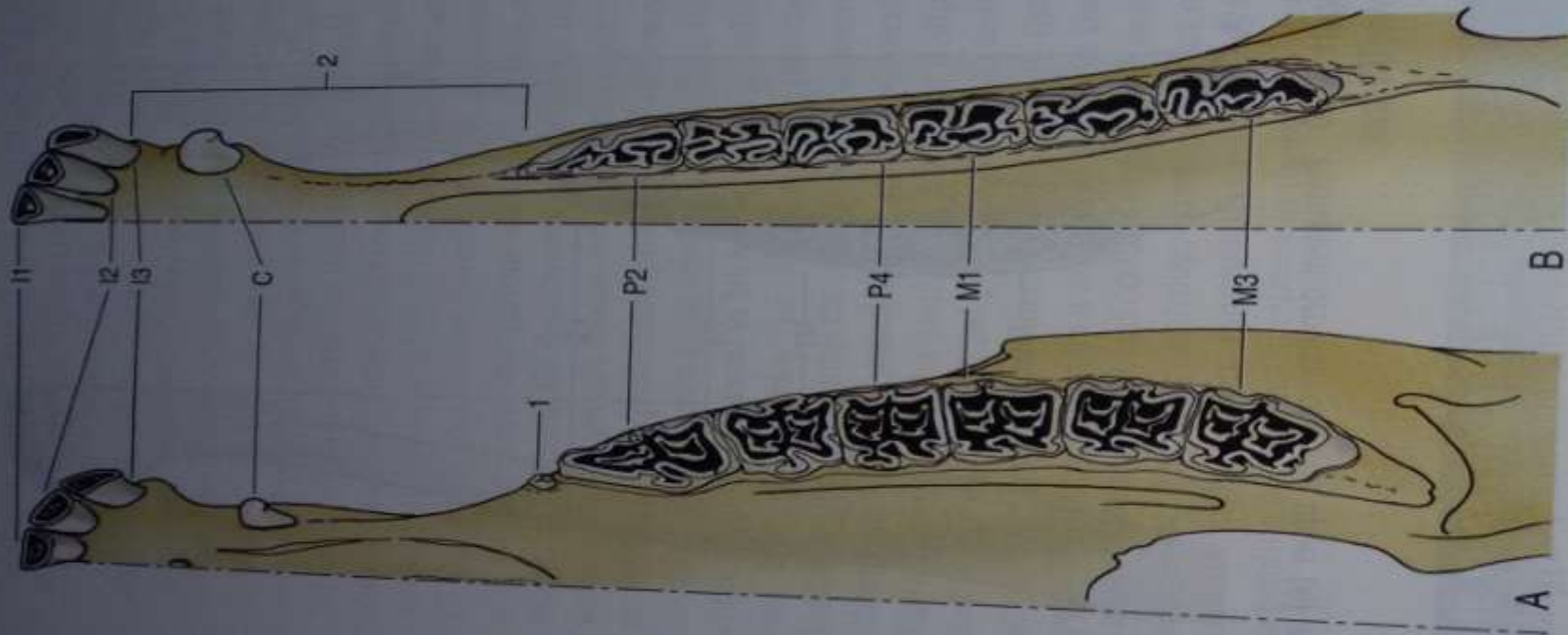


Figure 3-19 Permanent dentition of the horse, upper (A) and lower (B) jaws. 1, Wolf tooth (P¹); 2, diastema.

*The formula for the temporary (milk or deciduous teeth) of the dog is : $2(Di\frac{3}{3}, Dc\frac{1}{1}, Dp\frac{3}{3})= 28$.

*The formula for the permanent teeth of the dog is:

$$2(I\frac{3}{3}, C\frac{1}{1}, P\frac{4}{4}, M\frac{2}{3})= 42.$$

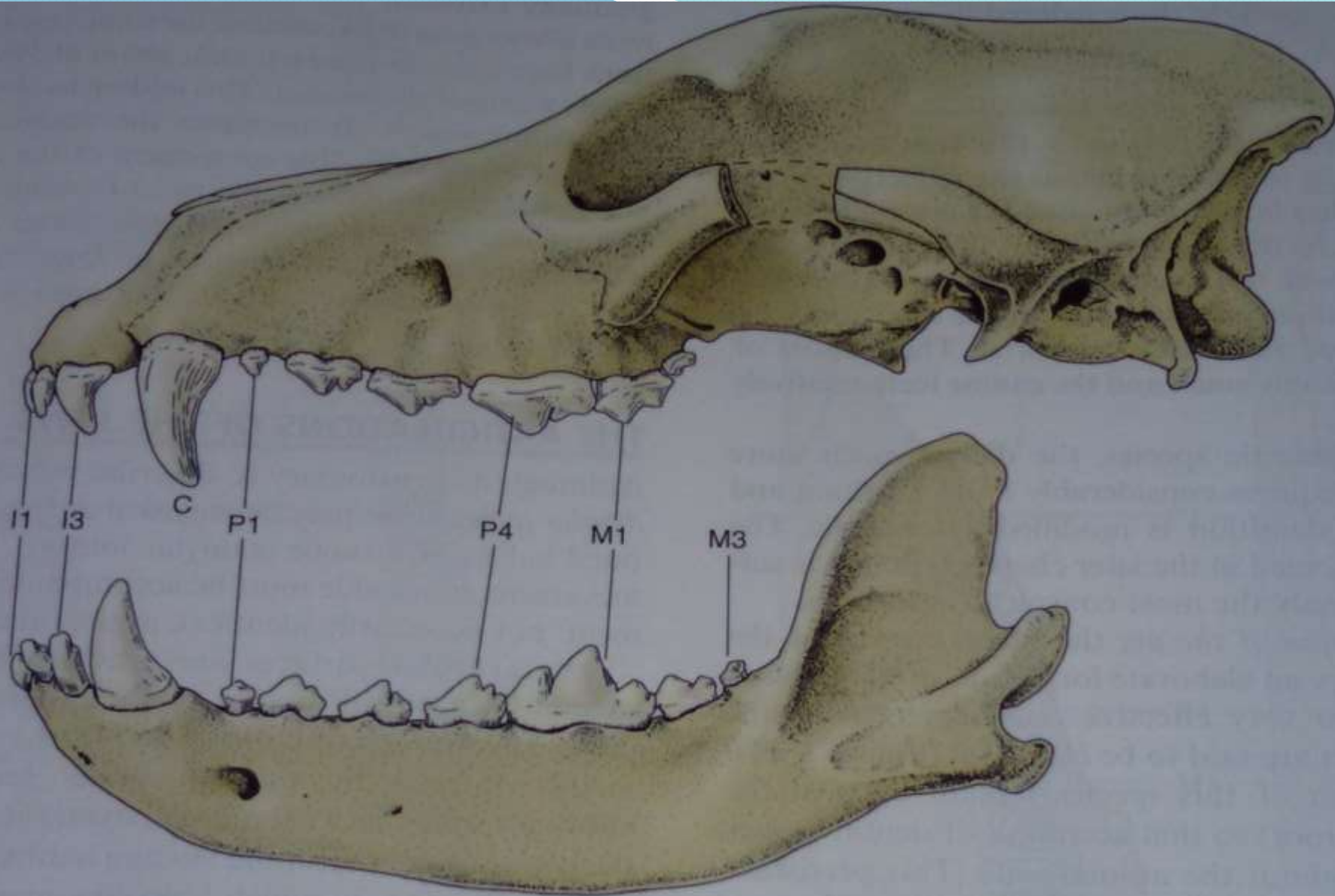


Figure 3-16 Lateral view of the permanent dentition of the dog.

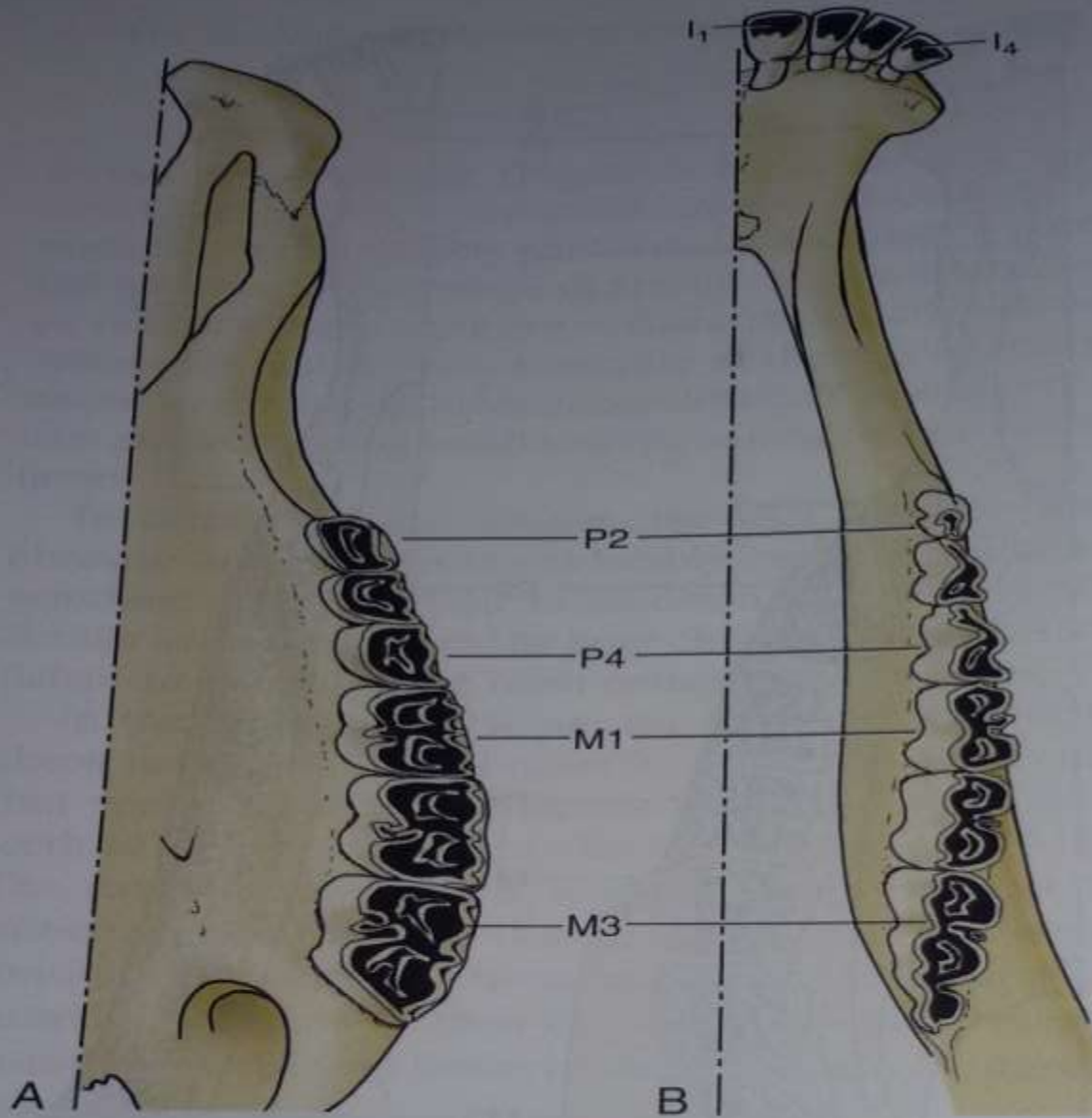


Figure 3–20 Permanent dentition of cattle, upper (A) and lower (B) jaws.

The alimentary canal

The alimentary canal consists of the esophagus, stomach, small intestine, large intestine and the anal canal. Two large glands, the liver and the pancreas are associated with the alimentary canal and release their secretion into its lumen.

Esophagus:-

*The esophagus is a musculo-membranous tube which extends from the pharynx to the stomach. In the neck, the esophagus lies dorsal to the trachea and slightly to the left of it.

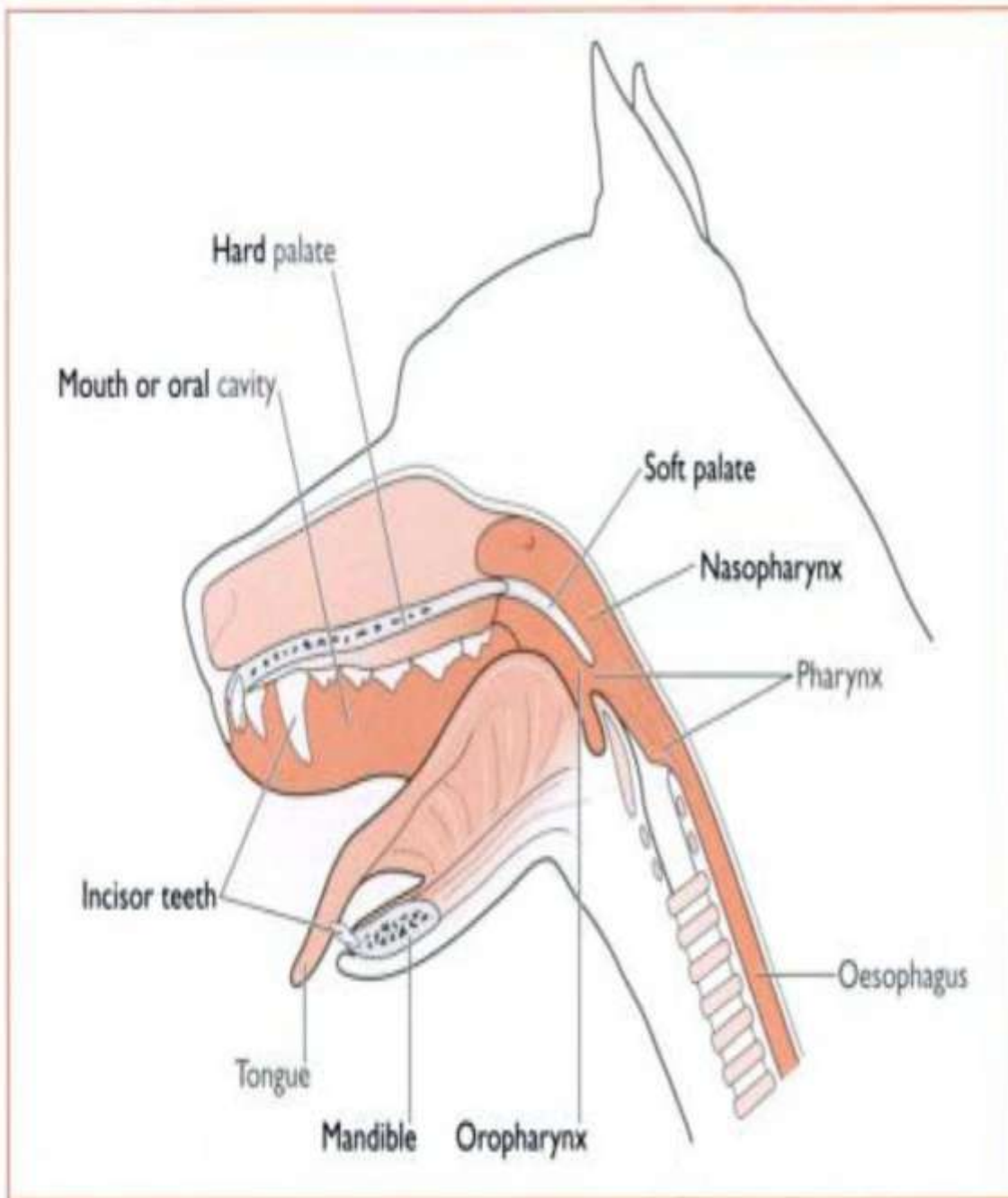


Fig. 9.3 Lateral view of the dog's head to show the oral cavity/digestive system.

*It is divided according to their location into:-

- 1-Cervical part: is the longest part extend from pharynx to the thoracic inlet.
- 2-Thoracic part: is the middle part in length and location.
- 3-Abdominal part: is the shortest part of esophagus.

*In horse= the esophagus is about 125-150cm.

In bovine= it is shorter 90-105 cm.

In sheep= 40-50 cm.

Structure of the esophagus:-

*The wall of esophagus is composed of four layers:-

1-Mucous membrane (tunica mucosa).

2-Submucosa layer (tunica submucosa).

3-Muscular layer (longitudinal, circular, oblique).

4-Adventitia and serosa.

Relations of esophagus:-

***In the cervical part:**

1-Cartilage of larynx and trachea.

2-Common carotid artery.

3-Jugular vein.

4-Tracheal duct and cervical lymph nodes.

5-Vago sympathetic trunk.

6-Caudal laryngeal nerve.

*In the thoracic part:

- 1-Thymus in small animals.
- 2-It pass through the dorsal mediastinum.
- 3-It pass on the base of heart.
- 4-It pass between the lungs.
- 5-It pass between the dorsal and ventral vagal branches.