Rabbit Functional Anatomy

External characters:

- ***Oryctolagus cuniculus*** is the scientific name of European grey rabbit.
- ***Rabbit is Crepuscular (active during dawn & dusk)***
- Young rabbit—Bunny
- Male rabbit is Buck
- Female Rabbit is Doe
- Rabbits are **gregarious** animals, generally cursorial, sometimes saltatorial in locomotion and lead fossorial life.
- They live in forests, grasslands, fields etc., They dig into the ground with the help of forelimbs.
- The burrows are like spacious tunnels which are interconnected and from an intricate net called **warren**.
- Warren has many openings to outside. Rabbits and their young ones take shelter in the warren and are thus protected from their enemies.
- Rabbits are **nocturnal** and **herbivorous animals**, feeding on roots, soft sterns, leaves, fruits, vegetables, tubers etc.
- They are in the habit of feeding on their own faeces and hence, they are described as **coprophagous** (autocoprophagous) or **coecophagus** animals.
- Rabbits are **polygamous**, *i.e.,* one male lives in the company of many females.
- Rabbits mature at the age of six months and breed four times in a year.
- Gestation period is **31 days**
- Each time, it gives birth to 5-8 young ones. Parental care is shown by female.
- There are no organs of defence for rabbits. Dogs, cats, wolves, foxes, owls etc., are their natural enemies.
- They produce a warning sound to alert other members in the group by thumping the ground with their hind limbs.
- The meat of rabbit is edible and is delicious.
- Fur is used for manufacture of purses, caps, gloves etc.
- They are ideal pets and give good entertainment.
- Rabbits are widely used as experimental models in various biological experiments.
- Rabbits, being herbivores, damage crops, vegetables and grass of lawns.
- They may befoul the grass with their excreta, which the other grazing animals *(e.g.,* sheep) dislike.
- Rabbit is about 40 cm. long and weighs about 750 g. to 1600 g.
- It is a homeothermic animal and its body temperature is **35.5°C.**
- Body of rabbit is covered by dense, soft fur which is greyish brown dorsally and laterally, and light grey ventrally.
- Ventral surface of tail has white fur. Body of rabbit is divisible into head, neck, trunk and tail.

1. Head:

- Head of rabbit is large and **pear shaped**. Anteriorly it is produced into a snout.
- Little below the snout, a transeverse slit-tike mouth is present. It is bound by **movable muscular lips.** Upper lip has a cleft and hence it is called hare lip. Through the slit incisors are visible.
- At the tip of the snout, above the mouth is a pair of oblique slits, external nostrils.
- Nostrils are surrounded by moist skin called **rhinarium**.
- On either side of the upper lip are long, stiff, tactile hairs called **vibrissae** or **whiskers**.
- A pair of large eyes is present on either side of the head. Each eye has movable upper and lower eyelids, which are fringed with hairs called eye lashes.
- In the anterior corner of each eye, is a small, white **nictitating membrane** (third eye lid). It can be drawn across the cornea to protect the eye from dust particles.
- Behind the eyes and on the postero-lateral parts of the head, a pair of large, spout-shaped, movable ear lobes (=pinnae) is present. Visual field is 360^0
- Basal part of each pinna surrounds the external ear opening or external **auditory meatus.**
- Pinnae can be moved independently and collect sound waves from all directions.

Neck:

- Head and trunk are connected by a short neck. It permits the animal to move its head freely in all directions to a limited extent. Neck does not contain coelom.

3. Trunk:

- Trunk of rabbit is large and is distinguished into two parts, namely, anterior thorax and posterior abdomen.
- Thorax encloses the heart and lungs, which are protected by the bony rib cage present in its wall. Ahdomen encloses viscera.
- Internally, thorax and abdomen are separated by a dome-shaped muscular membrane called diaphragm.

- On the ventral side, abdomen has four or five pairs of nipples or teats. In female, ducts of mammary glands (milk glands) open into them.
- Anus is present at the posterior end of abdomen below the base of tail.
- On each side of the anus, is a hairless depression called perineal pouch.
- The ducts of perineal glands open into these pouches.
- Secretions of perineal glands produce characteristic odour to the rabbit.
- In the case of male rabbit, the urinogenital aperture is present at the tip of penis (copulatory organ).
- Scrotal sacs, which contain testes, are present on either side of the penis.
- In female rabbit, urinogenital aperture is slit-like and is known as **vulva** and it lies below the anus.
- At the top of vulva, is a small rod-like structure called clitoris, it is homologous to the penis of male
- There are two pairs of pentadactyl limbs, in which forelimbs are shorter than hind-limbs.
- Each forelimb is divisible into a proximal upper arm (brachium), middle forearm (antebrachium) and distal hand (manus).
- Hand possesses five fingers ending with sharp and curved claws.
- Rabbit digs the burrow with the help of claws of forelimb.
- Each hind limb is divisible into a proximal thigh (femur), middle shank (crus) and distal foot (pes).
- Each foot has four toes ending with claws. The first toe (hallux), that is equal to the thumb of the fore limb (pollex) is absent in hind limb.
- Hindlimbs are mainly used for leaping.

4. Tail:

- Tail of rabbit is post-anal, small, bushy and curved upwards.
- It has a white patch on the lower side. In danger, it is used as warning signal to the other members of the group.