Quadrant II – Transcript and Related Materials

Programme: Bachelor of Science (Second Year)

Subject: Zoology

Paper Code: ZOC 103

Paper Title: Anatomy of Animal Body Systems

Unit: 01

Module Name: Introduction to Integumentary derivatives

Module No: 05

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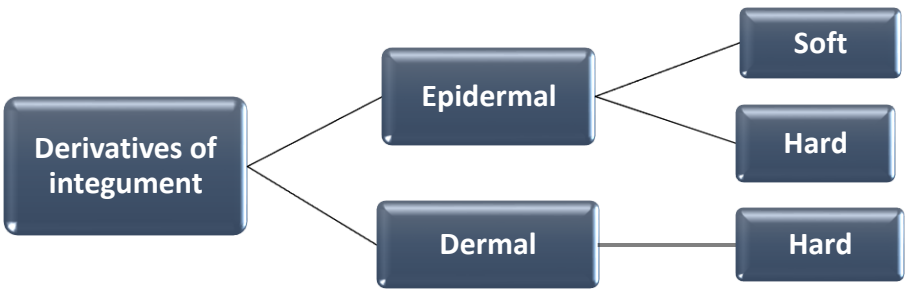
NOTES

Integumentary derivatives

- Integument is a complex structure which is a natural, outermost covering of an organism or organ.
- The outermost stratum is known as epidermis and the innermost is the dermis.
- The integumentary strata give rise to several types of derivatives varied in forms and complexity which have enormous functions.
- Integumentary derivatives are the structures that arise from the epidermis and dermis.



- They arise from the Stratum corneum of epidermis or Stratum germinativum of dermis.
- They impart protection to the body from various kinds of damages.
- The soft derivatives of integument include the glands of skin whereas the hard derivatives include all the keratinized structures and dermal derivatives.
- The epidermal derivatives may be soft or hard but dermal derivatives are exclusively hard in nature.

Epidermal soft derivatives

- These include all the Integumentary glands which arise from the epidermis.
- They may be seated in epidermis or in the deeper parts of the dermis and interact with the surface via a duct system.
- They may be classified into various types on the basis of their structure and functions.
- Examples of some major epidermal glands include Sweat glands, Sebaceous glands, Mammary glands, etc.

Epidermal hard derivatives

- The hard derivatives of epidermis are keratinised structures arising from the epidermis.
- They are the hard, horny waterproof structures which impart whole lot of protection to the organism bearing it.
- The examples of some hard derivatives include Epidermal scales, Beaks, Horns, Hooves, Feathers, etc.

Dermal derivatives

- Derivatives that arise from dermis are the dermal derivatives.
- They comprise of Dermal bony **scales** of fishes and amphibians, Dermal Plates or **osteoscutes** of reptiles, Dermal **scales** of mammals and **Antlers** in giraffe and deer.
- Dermal **ossification** forms the bony core of hollow horns of cattle.