EVERWIN MATRIC. HR. SEC. SCHOOL

01.08.19 Bio-Zoology Material STD: XI

Epithelial Tissue Tissues

Name	Feature	Function	Location
Squamous	Flat, irregular boundary	More in diffusion, filtration, less in protection	Heart, lungs, glomeruli, lymphatic vessels
Cuboidal	Cube like	Absorption, secretion	Kidney tubules, ducts, small glands, ovary
Columnar	Tall, oval nuclei at the base	Secretion, Absorption	Digestive tract from stomach to rectum
Columnar with microvilli Eg. Goblet cells	Microvilli at apical surface	Absorptive, Secretion, Protection Secretes mucous & protects	Digestive tract
Columnar ciliated surface	Free surface cilia	Propels mucus	Bronchioles, Fallopian tubes, Uterus
Columnar non-ciliated surface		Secretion	Digestive tract, Gall bladder, ducts
Pseudo-stratified epithelium	Unequal size, nuclei at different levels	Protection, Secretion, Absorption	
Pseudo-stratified ciliated epithelium	Free end cilia	Protection	Upper Respiratory Tract, Trachea
Pseudo-stratified non-ciliated epithelium	Having no cilia	Secretion	Ducts, Epididymis, male urethra
Glandular epithelium Eg: Goblet (unicellular gland)	Cuboidal, columnar	Specialized in secretion	Alimentary canal, salivary gland
Exocrine		Secretes enzyme, mucous, saliva	
Endocrine		Hormone	
Compound Epithelium	Many stratas of cells	Protection from mechanical and chemical stress	Skin, Glands, Buccal cavity
Compound squamous non-keratinized epithelium	Moist lining	Protection	Oesophagus, Mouth, Eye, Vagina
Compound squamous keratinized epithelium	Forms dry lining	Protection	Epidermis of skin
Compound stratified cuboidal epithelium	Cuboidal	Secretory	Ducts, sweat glands, mammary glands
Stratified Columnar Epithelium	Lining lumen	Secretion, Protection	Pharynx, male urethra, glands, ducts
Transitional epithelium	Lining	Allows stretching & protection	Ureters, urinary bladder

Connective Tissue

Name	Feature	Function	Location
Connective tissue	Support, Protection, Binding		
i) Loose Connective tissue Eg: Areolar	Semi fluid matrix, loose cells & fibres	Support	Below skin
Loose Connective tissue Eg: Adipose	Adipocytes 90%	stores fat	Below skin around eye, kidney, heart
Adipose: White fat	Less mitochondria	Supply energy	Below skin
Adipose: Brown fat	More mitochondria	Produces heat-without shivering (Thermiogenesis)	Found in Neonates
Reticular connective tissue	Reticular cells, lymphocytes	Forms internal framework	Lymph node, Spleen, Bone marrow
ii) Dense connective tissue	Fibres & fibroblast compactly packed	Strength	Between the muscles & bones
Dense: regular	Collagen fibre arranged in row, less elastic fibre. Cells - fibroblast	Attaches muscles to bones	Tendons
Dense: irregular	Fibres – bundles of thick collagen irregularly arranged, less elastic fibres Cell – Fibroblast	Structural strength, Forms capsule for organs	Found in kidney, bones, muscles, cartilage, joints, nerves
Dense: Elastic	High proportion of elastic fibre	Allows recoil	Arteries, bronchioles, lungs, vertebral column