

## 4.2 Epithelium and connective tissue

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Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

**Total: 24 marks**

**KEY WORDS** extracellular matrix

### Objective

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Classify epithelia and connective tissues and predict function from the classification.

### 1 Key knowledge and worked examples

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#### ■ The grid

Simple squamous = exchange; stratified squamous = abrasion; cuboidal = transport; columnar = absorption. Connective tissue = cells + matrix, from areolar to tendon, cartilage, bone, blood.

#### ■ Worked example: one field, one answer

Tall cells, basal nuclei, thin basement membrane, loose matrix beneath: simple columnar on areolar – an absorption surface ✓.

### 2 Practice

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**2.1** Which epithelium lines the capillary? [3]

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**2.2** Name the matrix fibre of tendon and its arrangement. [3]

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**2.3** Is pseudostratified epithelium truly multi-layered? [3]

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### 3 Exam-style questions

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**3.1** Predict the epithelium and justify for: alveolus, proximal tubule, oesophagus, small intestine.

For each, state layer + shape and the function it serves ✓.

[8]

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**3.2** A duodenal biopsy shows villous flattening (fictional malabsorption case).

Explain why absorption fails architecturally (surface loss). State which epithelium should be present. Explain why diarrhoea follows the same defect.

[7]

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