UNIVERSITY MEDICINE • EXERCISE SHEET

4.2 Epithelium and connective tissue

Name: _____ Class: _____ Date: _____ **Total: 24 marks**

KEY WORDS extracellular matrix

Objective

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

1 Key knowledge and worked examples

■ **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

2.1 Which epithelium lines the capillary? [3]

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

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

3 Exam-style questions

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]

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]