UNIVERSITY COMPUTER SCIENCE • EXERCISE SHEET

12.6 Security and professional ethics

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

KEY WORDS threat model

Objective

Build a threat model and answer an ethics call in writing.

1 Key knowledge and worked examples

■ **The model**

Assets x entry points x attackers; each threat paired with a mitigation and a test ✓.

■ **Worked example: the matrix**

3 roles x 6 actions = 18 cells; 4 allowed; 14 denials by default ✓.

2 Practice

2.1 Name BookShare's three entry points. [3]

2.2 How does the search form close its injection row? [3]

2.3 State the professional answer to a data-sale request. [3]

3 Exam-style questions

3.1 The renewal API endpoint accepts a member id and a copy id.

Threat-model it: name the assets touched, the plausible attackers, and two threats (one injection-shaped, one authorisation-shaped). Pair each with a mitigation and its test. Add the endpoint's row to the authorisation matrix (which cells newly allow?). [8]

3.2 The owner asks: "Sell anonymised reading history to advertisers – revenue is tight."

Distinguish this from the earlier raw-history request. State what the codes say about employer preference versus public interest. Give the engineer's written response with its alternatives and its paper trail. [7]