6  Databases (TGG)

(a) Explain how data duplication and data redundancy are distinct concepts in relational database design. [2 marks]

(b) What is meant by the term on-line transaction processing (OLTP)? [2 marks]

(c) What is meant by the term on-line analytic processing (OLAP)? [2 marks]

(d) Describe how the task of designing an OLTP system would differ from that of an OLAP system. [4 marks]

(e) Suppose that an OLAP database contains data extracted from an OLTP database.

(i) How might the presence of NULL values in the OLTP database complicate the task of data extraction? [5 marks]

(ii) How might schema migration of the OLTP database complicate the task of data extraction? [5 marks]