KK11 — File management techniques

Analysis & Design · Comprehensive exam study guide

STUDY DESIGN — YOU MUST KNOW

- the use of naming conventions
- version control
- backups (full, incremental, differential)
- security
- disposal

File management keeps project files organised, recoverable and secure. The **three backup types** are a classic exam comparison.

Techniques

Technique	Purpose
Naming conventions	Consistent, meaningful file names so files are easy to find and identify.
Version control	Tracks changes over time so earlier versions can be restored and work merged.
Backups	Copies of data that allow recovery after loss/corruption.
Security	Protecting files from unauthorised access (passwords, permissions, encryption).
Disposal	Safely deleting/destroying data no longer needed (links to privacy/APP 11).

The three backup types

Backup	What it copies	Restore	Trade-off
Full	Everything, every time.	Just the one full backup.	Slow to make, lots of storage; simplest restore.
Incremental	Only what changed since the **last backup** (of any type).	The last full + every incremental since.	Fast/small backups; slower, multi-step restore.
Differential	Everything changed since the **last full** backup.	The last full + the latest differential.	Middle ground; grows until next full backup.

Key definitions to memorise

Version control	A system that tracks changes to files so previous versions can be restored and contributions merged.
Full backup	A backup that copies all selected data each time.
Incremental backup	A backup copying only data changed since the last backup of any type.
Differential backup	A backup copying all data changed since the last full backup.

Exam technique

EXAM TIP

- Memorise the restore chains: incremental = full + ALL increments; differential = full + LATEST differential.
- Link disposal/security to privacy law (APP 11).

COMMON MISTAKES

- Swapping incremental and differential definitions.
- Saying incremental restores from just one file — it needs the full plus every increment.

Quick revision checklist

- ■ I can describe the five file-management techniques.
- ■ I can compare full, incremental and differential backups and their restore process.

Exam practice — questions & model answers

Q1. Distinguish between an incremental and a differential backup.

Distinguish · 2 marks

Model answer

- Incremental copies data changed since the last backup of any type (1);
- differential copies data changed since the last full backup (1).

Q2. Explain one advantage and one disadvantage of incremental backups.

Explain · 2 marks

Model answer

- Advantage: each backup is fast and small as it stores only recent changes (1).
- Disadvantage: restoring is slower as it needs the full backup plus every incremental in sequence (1).

Q3. State why secure disposal of data is important for a development team.

State · 1 mark

Model answer

- To prevent unauthorised access to personal data once it is no longer needed, meeting privacy obligations (APP 11) (1).