
BTEC DIT Component 3 – A1 Modern Technologies

Revision Guide

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Subject: ICT

Grade: KS4

Revision guide for A1 Modern Technologies, covering communication technologies, cloud storage, computing platforms, and organisational implications.

A1 Modern Technologies – BTEC Tech Award in Digital Information Technology

Key Concepts

- Communication technologies and how they enable connectivity
- Cloud storage and cloud computing for data access and collaboration
- Selection of platforms and devices for different business needs
- Use of hybrid systems combining on-premises and cloud solutions
- Implications of modern technologies for organisations

Communication Technologies

- Ad Hoc Networks: Temporary wireless connections created without fixed infrastructure, such as mobile hotspots or Bluetooth sharing.
- Advantages: Easy to set up, flexible, useful in emergencies or short-term collaboration.
- Disadvantages: Limited range, weaker security, slower speeds, and higher battery consumption.
- Open Networks: Networks that do not require authentication (e.g., public Wi-Fi). These pose security risks such as data interception and malware injection.
- Security Solutions: Use VPNs, HTTPS, firewalls, and two-factor authentication to reduce risks.

Cloud Technologies

- Cloud Storage: Saving data on remote servers accessed via the internet (e.g., Google Drive, OneDrive).
 - Advantages: Accessible anywhere, easy to share, automatic backup.
 - Disadvantages: Requires internet access, potential privacy concerns, possible subscription costs.
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- Cloud Computing: Running software and services over the internet (e.g., Microsoft 365, Google Workspace).
 - Advantages: Reduces need for powerful local hardware, supports collaboration.
 - Disadvantages: Dependent on reliable internet, potential data security risks.

Platform and System Selection

- Factors Affecting Choice: Cost, compatibility, scalability, performance, and user requirements.
- Businesses must choose platforms (mobile, desktop, web) that best suit their users and data needs.
- Hybrid Systems: Combine on-premises and cloud resources for flexibility and control.

Organisational Implications

- Security: Organisations must protect data through encryption, authentication, and access control.
- Data Protection: Compliance with regulations like GDPR is essential to protect user privacy.
- Productivity: Cloud and modern communication tools enable remote working and collaboration.
- Cost Management: Subscription-based services can reduce upfront costs but add long-term expenses.

Advantages & Disadvantages Summary

- Advantages: Improves flexibility, supports remote work, reduces local storage needs, encourages innovation.
- Disadvantages: Dependent on internet, security vulnerabilities, ongoing costs, and data privacy risks.

Practice Questions

- Define “cloud computing” and give two examples of its use in business.
- Explain two advantages and two disadvantages of using public Wi-Fi for company data transfer.
- Describe what is meant by a hybrid system and give one benefit for organisations.
- Explain why data security is important when using cloud storage.
- List three factors an organisation should consider when selecting a digital platform.