

STAGE: FORMATION 2

Subject Title:

INFORMATION SYSTEMS

Examination Duration: 3 Hours

Aim

The aim of this subject is to enable students to develop an understanding of the role and application of Information Systems (IS) and Information Technology (IT) in the management and control of organisations. It provides the basis for the further development of students for the roles of manager, advisor, assurance provider and designer of IS and IT.

Information Systems as an Integral Part of the Syllabus

This is an essential subject for the later study of Auditing, Audit Practice & Assurance Services and Strategy & Leadership. Students will develop their understanding of selecting and advising on the implementation of appropriate systems, processes, controls and solutions in a business environment.

Stage	Subject	Subject	Subject	Subject	Subject	Subject
P2	Strategic Corporate Finance	Strategic Performance Management	Advanced Corporate Reporting	Strategy & Leadership	Audit Practice and Assurance Services	Advanced Taxation
P1		Managerial Finance	Corporate Reporting	Corporate Laws and Governance	Auditing	
F2		Management Accounting	Financial Accounting	Information Systems	Taxation	
F1			Management in Organisations	Economics and Business Planning	Business Law and Professional Ethics	

The above table shows the linkages between Information Systems and the subjects highlighted. The capabilities developed will be built upon in the study of the subjects highlighted above.

Learning Outcomes

On successful completion of this subject students should be able to:

- Discuss the role of information systems in today's competitive business environment.
- Appraise and discuss the major management challenges to building and using information systems in organisations.
- Recognise and discuss ethical, social, and legal issues in the design and use of information systems.
- Analyse how information systems support various business strategies for competitive advantage.
- Analyse and discuss the challenges posed by strategic information systems and management solutions.
- Examine the role of Internet technology in facilitating management and coordination of internal and interorganisational business processes.
- Assess the challenges posed and opportunities offered by electronic business and electronic commerce and management solutions.
- Identify the challenges posed and opportunities offered by data resource management and management solutions.
- Evaluate the challenges of managing IT infrastructure and management solutions.
- Discuss alternative methods for building information systems and alternative methodologies for modelling systems.
- Discuss 'eXtensible Business Reporting Language' (XBRL) and how it improves the reliability and ease of communicating complex financial information among internal and external users.
- Critically analyse Information Technology-based case studies, thus incorporating their strategic and practical knowledge of Information Systems to real-life business situations.

Syllabus

1: THE DIGITAL FIRM	CL*
Use management and control of information systems in business.	2
The role of information systems in business strategy.	2
Information systems support in the decision making process.	2
Information systems and management issues.	2
Ethical, social, and political issues of information systems.	2
The impact of contemporary information systems and the Internet on the protection of individual privacy and intellectual property.	2
The role of information systems in today's competitive business environment.	2
The impact of the Internet and Internet technology on business and government.	2
Defining an information system from both a technical and business perspective and distinguishing between computer literacy.	2
The major management challenges to building and using information systems in organisations.	2
2: INFORMATION SYSTEMS IN BUSINESS	
How information systems support the major business functions: sales and marketing, manufacturing and production, finance and accounting, and human resources.	2
The relationship between organisations, information systems, and business processes.	2

2: INFORMATION SYSTEMS IN BUSINESS

The main classifications of information systems in business: executive support systems management information systems, decision support systems, knowledge management systems, transaction processing systems and office Information systems. 2

3: FUNCTIONS OF INFORMATION SYSTEMS

The functions of Information Systems. 2

Relationships between different information systems and where information systems are used within the firm. 2

Information systems support for business strategies towards competitive advantage. 2

The challenges posed by strategic information systems and management solutions. 2

4: ELECTRONIC BUSINESS & MOBILE COMMERCE

The Internet: new information technology infrastructure for the Digital Firm. 2

Internet platforms. 2

The use of electronic business and electronic commerce. 2

Technologies used for electronic business and electronic business models. 2

Internal and external applications of electronic business and electronic commerce. 2

Management issues associated with electronic business. 2

The impact of Internet Technology on value propositions and business models. 2

4: ELECTRONIC BUSINESS & MOBILE COMMERCE

The impact of electronic commerce on consumer retailing and business-to-business transactions. 2

Payment systems for electronic commerce. 2

The role of Internet Technology in facilitating management and coordination of internal and interorganisational business processes. 2

The challenges posed by electronic business and electronic commerce and management solutions. 2

Wireless transmission media and devices, cellular network standards and generations, and standards for mobile Web access. 2

M-commerce in business and m-commerce applications. 2

Wireless applications in business. 2

5: INFORMATION TECHNOLOGY

5.1 COMPUTER HARDWARE

The Internet: new information technology infrastructure for the Digital Firm. 1

The components of a computer system. 1

The stages of IT infrastructure evolution. 1

The technology drivers of IT infrastructure evolution. 1

Contemporary computer hardware platform trends. 1

Computer processing, storage, input and output technology. 1

Types and classifications of computer systems. 1

Managing hardware assets.	1
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Managing IT infrastructure and management solutions.	1
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5.2 COMPUTER SOFTWARE

Operating systems.	1
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Application software packages.	1
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Programming languages.	1
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Managing software assets.	1
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Contemporary software trends.	1
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eXtensible Business Reporting Language (XBRL).	2
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Collaborative and social software	2
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5.3 TELECOMMUNICATIONS AND NETWORKS

Components and functions of telecommunications systems.	1
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Communication networks.	1
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eBusiness and eCommerce technologies.	1
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Networking/telecommunications platforms.	1
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Consulting and system integration services.	2
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5.4 DATABASE AND INFORMATION STORAGE

The file organisation approach.	1
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The database management systems (DBMS) approach.	1
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Types of databases.	1
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Database purchase issues.	1
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Database design & maintenance issues.	1
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Database design principles.	1
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Database warehousing.	1
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Data and information storage trends.	1
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Managing data resources and management solutions.	1
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Database and data analytics.	2
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5.5 CLOUD COMPUTING

Infrastructure, platform and application (software service) layers of the cloud pyramid	2
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Private and Public Clouds	2
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Service Level Agreements (SLAs) for Cloud-based IT Resources	2
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Characteristics of cloud computing	2
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6: ORGANISATIONAL SUPPORT SYSTEMS

6.1 ENTERPRISE APPLICATIONS

Applications that support the major business functions, including Enterprise Resource Planning, Supply Chain Management and Customer Relationship Management systems	2
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6.2 KNOWLEDGE BASED SYSTEMS

Knowledge-based Systems.	2
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The flow of Knowledge Management.	2
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The control of Knowledge Management.	2
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6.3 MANAGEMENT DECISION SUPPORT TOOLS

Decision Support Systems.	2
Group Decision Support Systems.	2
Executive Support Systems.	2
Knowledge Working	2
Business intelligence solutions.	2

7: INFORMATION SYSTEM DEVELOPMENT

The System Development Life Cycle (SDLC).	1
Alternatives to SDLC including Prototyping and Rapid Application Development.	1
System development and management considerations.	2
The impact of building new systems on organisational change.	2
Developing information systems that support an organisation's business plan.	2
The core activities in the systems development process.	1
Alternative methods for building information systems and alternative methodologies for modelling systems.	1
The challenges of building information systems and management solutions.	2

8: Feasibility Study & Business Value of Systems

Aims, objectives, problem identification, responsibilities, planning, management and lifecycle.	2
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8: Feasibility Study & Business Value of Systems

Cost-benefit analysis and final outputs.	2
Models for understanding the business value of information systems.	2
Change management requirements for building successful systems.	2

9: SYSTEM SECURITY AND CONTROL

The need for special protection from destruction, error, and abuse of information systems.	2
The business value of security and control.	2
Organisational and managerial frameworks for security and control.	2
System vulnerability and abuse.	2
Preventative maintenance techniques and security controls.	2
Disaster recovery planning.	2
Quality control and quality assurance.	2
Tools and technologies for safeguarding information resources.	2
Identify the challenges posed by information systems security and control and management solutions.	2
Data Protection Act 1988 and Data Protection (Amendment) Act 2003	2

Assessment Strategy

EXAMINATION APPROACH

The examination seeks to test students' knowledge and understanding of the role and application, analysis and evaluation of Information Systems and Information Technology.

Question 1 is a case-study set within a real-life business context. This assesses the ability to transfer strategic and practical knowledge of Information Systems to a business situation. It also tests the ability to assimilate information, identify problems / issues and recommend appropriate solutions.

Question 2 is compulsory. This question facilitates the examination of a range of topics across different syllabus areas.

Questions 3 to 6 have, as their major element, one of the main topic areas from the syllabus. Students are expected to demonstrate sufficient knowledge relating to technology and developments to effectively contribute to the formulation of an information technology strategy.

EXAMINATION FORMAT

The examination is unseen, closed book and 3 hours in duration. It is divided into two sections. Section A is compulsory and consists of an unseen mini - case-study for 25 marks and a second 15-mark question. Section B has four 20-mark questions. Students are required to answer 3 questions out of 4 from this section.

Marks Allocation	Marks
Section A	
Compulsory Question (Mini - case-study)	25
Question 2	15
Section B	
Choice of 3 questions out of 4 (20 marks each)	60
Total 100	

USEFUL WEBSITES (AS AT DATE OF PUBLICATION)

www.cpaireland.ie - CPA Ireland.

www.bbc.co.uk/click - BBC's Technology Programme.

www.dataprotection.ie/ - The (Irish) Data Protection Commissioner www.itbusinessedge.com/ - IT Business Edge

www.isaca.org - Information Systems Audit and Control Association (ISACA).

www.softwareadvice.com - Buyer's guides to common software types.

www.accountingweb.com/technology - Technology and trends for accountants.

www.techcentral.ie - Ireland's technology news resource

www.irishtimes.com/news/technology

www.wcio.com - Chief Information Office

www.technologyreview.com - MIT Technology Review.

Learning Resources

CORE TEXTS

Laudon and Laudon, Management Information Systems: Managing the Digital Firm. Pearson 2018 / ISBN-13: 9780134639710 / 16th edition.

SUPPLEMENTARY TEXTS AND JOURNALS

AccountancyPlus.

CPA Students' eBulletin.