

INTERNATIONAL PROFESSIONAL MANAGERS ASSOCIATION - UK



INFORMATION COMMUNICATION TECHNOLOGY EXAMINATION SYLLABUS

EXAMINATION SUBJECT AND SYLLABUS FOR PROFESSIONAL PART 1

This level is designed to provide:

- The tools and techniques to be able to tackle complex and challenging ICT related operations and management problems;
- Carefully supervised ICT related assignments, case studies and projects

Entry Qualifications to this programme are completion of the International Professional Managers Association Intermediate qualifying examination, or a recognised Degree or equivalent.

EXAMINATION SUBJECTS

1. Management Information Systems(Double Course)
2. Software Engineering(Double Course)
3. E-Commerce Marketing and Technology

COURSE CONTENTS

MANAGEMENT INFORMATION SYSTEMS

Course Aims

- To equip the student with the understanding of Information Technology and its impact on business and strategic management.
- To provide the student with the ability to critically assess computing and information needs of the organisation.
- To enable the student to evaluate and implement Decision Support Systems

Learning Outcomes

At the end of the course the student will have the ability to:

- To understand the importance of computing and IT for organisations today.
- To have the requisite knowledge to evaluate computing and IT needs of the organization
- To understand how information systems can be applied within the strategic context of the organisation.
- To understand the key issues in the development of information systems for operational, tactical and strategic purposes
- To design appropriate systems to support the strategic efforts of the organization
- To evaluate and design Enterprise Resources Systems, Data Mining, and Knowledge Management and other Decision Support Systems.

Course Syllabus

- Information Systems
 - Concepts of Systems and Organizations
 - Types and forms of Information Systems

- Information Technology and its impact on Strategic Management
- Business Process Reengineering and Information Technology
- Computer Systems
 - Understanding basic types of Computer Hardware and Software
 - Computer Files and Database Management Systems
 - Communications Systems, Networking and Client/Server systems
 - Distributed Systems, intranets, extranets and the Internet
- Business Applications and IT
 - Analysis and development of Operational Information Systems
 - Analysis and development of Tactical and Strategic Information Systems
 - Development and use of Decision Support Systems and Expert Systems
 - Enterprise Resource Planning Systems
- Planning and Development of Information Systems
 - Planning for Information Systems
 - Systems Analysis and Design including Structured Methods, CASE
- Information Systems Management
 - Organisation of Information Systems
 - Control of IT and Computing Systems
 - Security Issues in Information Systems
- Decision Support Systems
 - Data Warehousing, Access, Analysis, Mining, and Visualization.
 - Modeling and Analysis.
 - Decision Support System Development.
 - Collaborative Computing Technologies: Group Support Systems.
 - Enterprise Decision Support Systems.
 - Knowledge Management.
 - Knowledge-Based Decision Support: Artificial Intelligence and Expert Systems.
 - Inference Techniques.
 - Intelligent Systems Development.

- Implementing and Integrating Management Support Systems.

Recommended Text

Book Title -: Managing the Digital Firm (8e)

Author -: Laudon & Laudon

Publisher -: Pearson/Prentice Hall

ISBN No -: 0-13-120681-8

SOFTWARE ENGINEERING

Course Aims

- To equip the student with the managerial skills to control effectively the computer system function for the organisation
- To understand the need for compliance with intellectual copyright
- To undertake financial analysis for new computer systems and information technology investment

Learning Outcomes

At the end of the course the student will have the ability to:

- Produce software specifications and requirements to meet the needs and objectives of users
- Define the risks inherent in software development projects
- Design a variety of software applications taking into consideration factors including interface design principles, user interaction, information delivery.
- Develop procedures for prototyping, quality management, testing, verification and validation

Course Syllabus

- Computer-based system engineering
- Emergent system properties
- Systems and their environment

- System modelling
- The system engineering process
- System procurement

- Software Processes
- Software process models
- Process iteration
- Software Specification
- Software design and implementation
- Software validation
- Software evolution
- Automated process support

- Project management
- Management activities
- Project planning
- Project scheduling
- Risk management

- Software requirements
- Functional and non-functional requirements
- User requirements
- System requirements
- The software requirements document

- Requirements engineering processes
- Feasibility studies
- Requirements elicitation and analysis
- Requirements validation
- Requirements management

- System Models
- Context models
- Behavioural models
- Data models
- Object models
- CASE workbenches

- Software prototyping
 - Prototyping in the software process
 - Rapid prototyping techniques
 - User interface prototyping
- Formal Specification
 - Formal specification in the software process
 - Interface specification
 - Behavioral specification
- Architectural design
 - System structuring
 - Control models
 - Modular decomposition
 - Domain-specific architectures
- Distributed systems design
 - Multiprocessor architectures
 - Client-server architectures
 - Distributed object architectures
 - CORBA
- Object-oriented design
 - Objects and object classes
 - An object-oriented design process
 - Design evolution
- Real-time software design
 - System design
 - Real-time executives
 - Monitoring and control systems
 - Data acquisition systems
- User interface design
 - User interface design principles
 - User interaction
 - Information presentation
- User support
 - Interface evaluation
- Dependability
 - Critical systems
 - Availability and reliability
 - Safety
 - Security
- Critical systems specification
 - Software reliability specification
 - Safety specification
 - Security specification
- Critical systems development
 - Fault minimisation
 - Fault tolerance
 - Fault-tolerant architectures
 - Safe system design
- Verification and validation
 - Verification and validation planning
 - Software inspections
 - Automated static analysis
 - Clean room software development
- Software testing
 - Defect testing
 - Integration testing
 - Object-oriented testing
- Critical systems validation
 - Formal methods and critical systems
 - Reliability validation
 - Safety assurance
 - Security assessment

- Software cost estimation
 - Productivity
 - Estimation techniques
 - Algorithmic cost modelling
 - Project duration and staffing
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- Quality management
 - Quality assurance and standards
 - Quality planning
 - Quality control
 - Software measurement and metrics
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- Process Improvement
 - Process and product quality
 - Process analysis and modelling
 - Process measurement
 - The SEI Process Capability Maturity Model
 - Process classification
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- Software change
 - Program evolution dynamics
 - Software maintenance
 - Architectural evolution
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- Software re-engineering
 - Source code translation
 - Reverse engineering
 - Program structure improvement
 - Program modularisation
 - Data re-engineering
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- Configuration management
 - Configuration management planning
 - Change management
 - Version and release management
 - System building
 - CASE tools for configuration management

Recommended Text

Book Title -: Principles of Information Systems (8e)

Author -: Stair & Reynolds

Publisher -: Thomson Course Technology

ISBN No -: 1-4239-0119-3

E-COMMERCE MARKETING AND TECHNOLOGY

Course Aims

- To understand and to apply the underlying technologies available for the provision and implementation e-commerce.
- To implement effective Internet marketing programs.

Learning Outcomes

At the end of the course the student will have the ability to:

- Discuss the various models of e-commerce for the organisation.
- Design and implement an effective e-commerce delivery system
- Design appropriate measures to deal effectively with security concerns of customers.
- Develop an effective Marketing strategy for e-commerce

Course Syllabus

- The Technology
 - E-Commerce and E-Business
 - Types of E-Commerce
 - Communication Protocols for E-Business
 - Network Security and E-Commerce
 - Security Threats
 - Internet Security Requirements (Secrecy, Integrity, Availability)

- Authentication, Encryption, Digital Payments, and Digital Money
- Server Platforms in E-Commerce
- Language for the Web: HTML, XML, and Beyond
- Searching Mechanisms
- Software Agents for E-Commerce
- Multimedia and Web-casting on the Web
- Packaged Solutions for E-Business
- ERP Systems
- Customer Relationship Management
- Marketing
 - Fundamentals of Marketing
 - Developing a Marketing strategy
 - Marketing Research
 - The Role of Online Marketplaces
 - Branding
 - Interactive Direct Marketing

Recommended Text

Book Title -: Internet Marketing and E-Commerce
Author -: Hanson & Kalyanam **Publisher** -:
South-Western/Cengage **ISBN No** -: 13
978-0-324-42281-8

Additional Reading

Book Title -: Electronic Commerce (7e)
Author -: Gary Schneider
Publisher -: Thomson Course Technology
ISBN No -: 13 978-0-273-70752-3