Diploma in
Information
Communication
Technology

DICT

EXAMINATION
SYLLABUS

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SUMMARY OF THE DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY (DICT) EXAMINATION SYLLABUS

LEVEL I

Paper No. 1	Introduction to Computing
Paper No. 2	Computer Mathematics
Paper No. 3	Entrepreneurship and Communication
Paper No. 4	Computer Applications Practical I

LEVEL II

Paper No. 5	Computer Networking
Paper No. 6	Internet Skills
Paper No. 7	Computer Support and Maintenance
Paper No. 8	Programming Concepts

LEVEL III

Paper No. 9	Principles of Web Development
Paper No. 10	Foundations of Accounting
Paper No.11	Information Systems Project Skills
Paper No.12	Computer Applications Practical II

LEVEL I

PAPER NO. 1 INTRODUCTION TO COMPUTING

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her to apply computing skills in an organisation

1.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Select appropriate computer hardware and software
- Apply data processing principles
- Demonstrate competence in basic computer operations
- Select appropriate information systems in an entity
- Control information systems threats

CONTENT

1.1 Introduction to information communication technology (ICT)

- Introduction to computers
- Evolution of computers
- Elements of a computer system
- Uses of computer systems
- Impact of ICT in society
- Careers in ICT

1.2 Computer hardware

- Components of a computer system
- Input/output devices
- Storage devices
- Processing unit
- Communication devices
- Selection of computer hardware

1.3 Computer software

- Systems software
- Application software
- User interface
- Selection of computer software

1.4 Basic data processing

- Introduction to data processing
- Data processing cycle
- Data hierarchy
- File organisation and access
- Data collection methods
- Methods of data processing
- Data processing systems
- Data processing modes

1.5 Introduction to information systems

- Information system concepts
- Components of an information system
- Information centres

1.6 **Information systems in an organisation**

- Definition of an organisation
- Organisation levels
- Types of information systems
- Roles of information systems in an organisation

1.7 **Information system security**

- Information system threats and controls
- Information system integrity

1.8 **Emerging issues and trends**

PAPER NO. 2 COMPUTER MATHEMATICS

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her to apply computer mathematical approaches to solve business problems

2.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Perform binary arithmetic operations
- Draw simple deductions and conclusions from given data
- Use matrix algebra to solve real life problems
- Solve basic linear equations
- Relate probability and statistics to computing
- Apply set theory in solving computing problems
- Solve computer related problems using logic and truth table concepts.

CONTENT

2.1 Data representation and number systems

- Computer codes: BCD, ASCII, EBCDIC
- Bit, byte, nibble, word
- Number systems; Decimal numbers, Binary numbers, Octal numbers, Hexadecimal numbers
- Number conversions

2.2 Binary arithmetic

- Addition, subtraction
- Multiplication, division
- Complements

2.3 Set theory

- Introduction; definitions and purpose
- Types of sets: Universal set, empty/null set, sub-sets, finite, infinite, power sets, partition
- Description of sets; enumeration method and descriptive method
- Operations: Union and intersection, complements, difference
- Duality
- Sets and elements
- Venn diagrams
- Ordered pairs, product sets, relations

2.4 Logic and truth tables

- Introduction
- Conjunction and disjunction
- Negation
- Proportions and truth tables
- Tautology and contradiction
- Logical equivalence

2.5 Elementary matrices

- Introduction to matrices: definitions and importance of matrices
- Matrix addition and subtraction
- Dimensions/order of matrices

- Types of matrices
- Identity matrix
- Matrix operations: addition, subtraction, multiplication, inversion of 2x2 matrices
- Applications of matrices to business problems

2.6 **Linear equations**

- Linear equations in one unknown
- System of two linear equations in two unknowns

2.7 **Elementary statistics**

- Sources of data: primary and secondary
- Methods of collecting primary data: observation, interviews, questionnaires
- Sampling methods; probabilistic and non-probabilistic
- Data presentation: frequency tables and histograms
- Measures of central tendency: arithmetic mean, mode, median
- Measures of dispersion: range, mean deviation, standard deviation, variance, coefficient of variation

2.8 **Introduction to probability**

- Definitions: events, outcome, experiment, sample space
- Types of events: simple, elementary, mutually exclusive, mutually inclusive, dependent and independent
- Laws of probability: addition and multiplication
- Basic probability trees
- Finite probability spaces and conditional probability

2.9 **Emerging issues and trends**

PAPER NO.3 ENTREPRENEURSHIP AND COMMUNICATION

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to apply entrepreneurial and communication skills in business and other environments

3.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Identify and screen viable business opportunities
- Develop a business plan
- Demonstrate entrepreneurial orientation
- Communicate effectively in a business environment
- Apply entrepreneurial competencies in response to the emerging trends in the business environment

CONTENT

3.1 Introduction to entrepreneurship

- Definition of entrepreneurship
- Rationale for entrepreneurship
- Entrepreneurial decision process
- Entrepreneurial development
- Contribution to economic development

3.2 Entrepreneurship orientation

- Independence and need for achievement
- Individual characteristics of entrepreneurs
- Creativity and innovation
- Decision making
- Risk management
- Time management
- Coping with competition

3.3 Entrepreneurial opportunity and development

- Methods of generating ideas
- Qualities of good business opportunities
- Evaluating business opportunities
- Feasibility analysis
- Business incubation
- Intellectual properties, copyrights trademarks and patents

3.4 Business plan

- Purpose
- Format
- Description of the business
- The market and marketing plan
- Operations and production plan
- The human resources plan
- The financial plan
- Launching the new venture

3.5 Strategies for enterprise growth

- Penetration strategy
- Market development strategy
- Product development strategy

- Franchising
- Joint ventures
- Mergers and acquisitions
- Going public

3.6 **Entrepreneurship and technology**
- Internet and e-commerce
- The enterprise website
- Globalisation
- Business outsourcing
- Techpreneurs
- Electronic and mobile money transfers
- Business networking
- Crowd funding and crowd sourcing

3.7 **Nature of business communication**
- Meaning of communication
- Purposes of business communication
- Internal and external communication
- The communication process
- Methods of communication
- Communication systems and networks
- Principles of effective communication
- Barriers to effective communication

3.8 **Written communication**
- Rules of effective writing
- Business correspondence
- Reports
- Memorandum
- Proposal writing
- Forms and questionnaire design
- Circulars and newsletters
- Notices and advertisements
- Publicity materials
- Press releases
- Graphic communication

3.9 **Oral and non-verbal communication**
- Oral communication in business
- Effective listening
- Interviews
- Non-verbal communication
- Interpersonal relationships
- Presentations skills

3.10 **Meetings**
- Notice
- Agenda
- Role of the chairperson
- Role of the secretary
- Conduct of meetings
- Minutes

3.11 **Information technology and communication**
- The internet
- Teleconferencing
- Wireless technologies
- Electronic postal services

3.12 **Ethics and integrity in business communication**

- Concept of ethics and integrity
- Significance of ethical communication
- Factors influencing ethical communication
- Ethical dilemmas in communication
- Guidelines to handle communication ethics dilemmas
- Business ethics in communication

3.13 **Emerging issues and trends**

PAPER NO. 4 COMPUTER APPLICATIONS PRACTICAL I

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to perform basic computer operations

4.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Use an operating system for file management
- Use a word processor
- Make a presentation using appropriate software
- Install software in a computer
- Use a computer to manage day to day business operations

CONTENT

4.1 **Introduction to operating systems**

- Definition
- Types of operating systems
- Types of computer interfaces
- WIMP
- Selection of an operating system

4.2 **Computer start up/booting process**

- Definition
- Types of booting
- Boot up process
- BIOS
- Making bootable devices

4.3 **Basic operations**

- Starting up the computer
- Managing files and folders
- Plugging in, preparing and ejecting storage devices
- Loading applications

4.4 **Software installation**

- Common operations performed during installation
- Types of installations
- Installers
- Common types of installers
- Uninstalling software

4.5 **Keyboard manipulation and mouse skills**

- Types of keyboards
- Keyboard layout
- Typing skills
- Keyboard ergonomics
- Mouse skills

4.6 **Word Processing software**

- Using features of a word processor
- Creating and retrieving existing documents
- Setting page setup features
- Using toolbars
- Formatting and editing text

- Manipulating a document using shortcut keys
- Creating and formatting tables
- Creating and formatting images and drawing
- Inserting and editing headers and footers
- Proofreading a document
- Using mail merge tool
- Tracking changes and comments
- Converting documents
- Linking and embedding
- Creating table of content, list of figures and list of tables
- Saving a document
- Automating simple tasks
- Printing a document

4.7 **Presentation software**

- Using features of a presentation program
- Inserting a slide, typing and formatting text in a slide
- Importing and exporting content
- Working with master slides and templates
- Editing slide content
- Drawing and formatting various objects
- Working with graphics and charts
- Inserting and formatting images
- Animation effects
- Reviewing presentation
- Saving, copying and deleting slides
- Presentation views
- Automating simple tasks
- Printing handouts and slides

4.8 **Emerging issues and trends**

LEVEL II

PAPER NO. 5 COMPUTER NETWORKING

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to network computers and work in a networked environment

5.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Identify hardware and software network components
- Configure various network topologies
- Select appropriate transmission media
- Apply various protocols in computer networking

CONTENT

5.1 Introduction to computer networks

- Definitions of networking terms and concepts
- Advantages and disadvantages of computer networks

5.2 Networking components

- Hardware
- Software
- Media
- Server/Clients

5.3 Setting up a network

- Introduction to protocols
- Tools used in networking
- Cable preparation
- Connecting computers to the switch/hub
- Testing connectivity
- Configuring shared network resources
- Administering user accounts
- Basic network troubleshooting

5.4 Internetworking hardware

- Modems
- Switches
- Routers
- Network cards
- Repeaters
- Bridges
- Gateway

5.5 Networking software

- Types of networking software
- Functions of networking software
- Advantages and disadvantages of networking software
- Networking operating system and desktop operating system

5.6 **Transmission media**

- Bounded media
- Wireless media
- Broadband wireless technology

5.7 **Networking topologies**

- Introduction to protocols
- Physical topologies
- Logical topologies (access methods)
- Configuring TCP/IP and other protocols

5.8 **Types of computer networks**

- Personal area network **(**PAN**)**
- Local area network (LAN)
- Metropolitan area network (MAN)
- Wide area network (WAN)
- The Internet

5.9 **Networking protocol**

- Introduction to OSI model
- Basics of transmission control protocol/internet protocol (TCP/IP)

5.10 **Emerging issues and trends**

PAPER NO. 6 INTERNET SKILLS

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to apply internet technology in an organisation

6.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Use various Internet services
- Specify the requirements for Internet connectivity
- Identify Internet security threats and their controls
- Assess the impact of Internet in society
- Configure internet protocols
- Use internet search engines

CONTENT

6.1 **Introduction to the Internet**

- Definition of the Internet
- Development of the Internet
- Internet uses and benefits

6.2 **Internet services**

- World wide web (www)
- Electronic mail
- File transfer protocol (FTP)
- Chat
- Telnet
- Newsgroups
- Gopher
- Blogs
- Voice and video teleconferencing
- Instant messaging
- Social networking

6.3 **Cloud computing**

- Definition
- Classification of cloud computing
- Advantages and disadvantages of cloud computing

6.4 **Internet connectivity**

- Data terminal equipment (DTE)
- Servers, clients and ports
- Internet service providers (ISPs)
- Domain name system (DNS) and DNS server
- Types of accounts: Internet PP & SLIP accounts, UNIX
- Cable connections
- Satellite and wireless connections

6.5 **World Wide Web**

- Generations
- World wide web components
  - Structural components
  - Semantic components
- Uniform resource locators (URLs)
- Web browsers
- Web servers: apache, Internet information server (IIS)
- Hosting a website on a local machine
- Content management

6.6 **Client/server architecture**

- Two tier client/server architecture
- Three tier client/server architecture

6.7 **Protocols**

- Transmission control protocol/Internet protocol (TCP/IP)
- Hypertext transfer protocol (HTTP)
- File transfer protocol (FTP)
- e-mail protocols: SMPT, IMAP, POP3

6.8 **Information searching**

- Search engines
- Navigation

6.9 **Internet security**

- Internet security threats
- Client security
- Server security
- Data security
- Communication media

6.10 **Internet groups and corporations**

- International
- Regional
- National

6.11 **Impact of Internet in society**

- Social issues
- Ethical issues
- Legal issues
- Professional issues
- Cultural issues

6.12 **Emerging issues and trends**

PAPER NO. 7 COMPUTER SUPPORT AND MAINTENANCE

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her to support and maintain computers in an organisation

7.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Operate computer hardware and software
- Install and uninstall operating systems and application programs
- Troubleshoot computer hardware
- Disassemble and reassemble a computer system
- Identify and replace faulty components
- Undertake effective selection and acquisition of computer systems
- Back-up data and information

CONTENT

7.1 **Basic computer concepts**
- Microcomputer electronic components
- The physics of electronics
- The maintenance tools

7.2 **Power supply**
- Overview of power supply
- Power supply problems
- Power supply protection devices
- Using power supply devices

7.3 **Motherboards**
- Computer cases
- Types of motherboards
- Installing a motherboard
- Motherboard components
- Using expansion slots and connectors

7.4 **Microprocessors**
- Microprocessor overview
- Types of processors
- Processor modes
- Selecting and upgrading a processor

7.5 **Memory**
- Memory characteristics
- Memory types and packages
- Memory mapping
- Factors to consider when selecting and upgrading memory

7.6 **Disks and drives**
- Disk types
- Disk drives
- Disk organisation
- Disk management
- Selecting disk drives
- Maintenance of disks and disk drives

7.7 **Display technology**

- Display adapters
- Care and maintenance
- Performance measures
- Troubleshooting

7.8 **Computer system assembly and disassembly**

- Selection and compatibility issues
- Hardware components installation
- Computer assembling, disassembling and reassembling
- Upgrading a computer
- Electronic waste management

7.9 **Hardware and software installation**

- Installation concepts
- Installing peripheral devices
- Installing operating systems
- Installing application programs
- Installing and upgrading utility software

7.10 **Fault finding and troubleshooting**

- Fault finding principles
- Common equipment faults
- Hardware and software diagnostics
- Uninstalling and reinstalling software

7.11 **Computer support**

- On-line support
  - Help desk management
  - Health and safety
- Safe computer user practices
- Planning and providing staff training

7.12 **System selection and acquisition**

- Selection process
- Analysing requirements
- Evaluation and testing
- Equipments costing
- Warranties
- Training costs
- Cost benefits analysis
- Purchasing
- Service level agreements
- Technical checklist

7.13 **Computer security**

- Virus protection
- Firewalls
- Computer backups

7.14 **Emerging issues and trends**

PAPER NO. 8 PROGRAMMING CONCEPTS

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her develop basic computer programs

8.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Apply programming concepts in practice
- Write an elementary code using Visual Basic programming language
- Test and debug errors in a computer program
- Write a simple documentation (user manual) to support user programs.

CONTENT

8.1 **Introduction**
- Programming language
- Programs
- Types of programming languages

8.2 **Generations of programming languages**
- Machine language
- Assembly language
- Third generation languages
- High level languages
- Fourth generation languages
- Object oriented methods

8.3 **Programming approaches**
- Imperative programming
- Logic programming
- Structured programming
- Procedural programming
- Unstructured programming
- Functional programming
- Object oriented programming

8.4 **Language translation programs**
- Assemblers
- Compilers
- Interpreters
- Bugs/errors

8.5 **Program development steps**
- Problem statement/definition
- Analysing a problem
- Program development
- Coding
- Testing
- Documentation
- Maintenance

8.6 **Programming tools**
- Algorithms
- Flowcharts

- Pseudocodes
- Using algorithms, flowcharts and pseudocodes with control statements

8.7 **Visual Basic programming language**

- Data types
- Variables and constants (global and local)
- Statements
- Assignments
- Expressions and operators (comparison, logical, bitwise)
- Control structures
- Creating user interface
- Developing a case program

8.8 **Emerging issues and trends**

LEVEL III

PAPER NO.9 PRINCIPLES OF WEB DEVELOPMENT

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her to develop a website

9.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Write a basic HTML code
- Use graphics and animations to enrich web pages
- Create functional sites with hyperlinks, tables, forms and databases
- Use scripts to create dynamic web pages
- Use Dream Weaver software tool in designing web pages.

CONTENT

9.1 Introduction to web development

- Web development concepts
- Introduction to mark-up language
- Overview of HTML
- Basic tags and corresponding attributes

9.2 Objects, graphics and animations

- Creating and modifying objects
- Complex objects on a single layer
- Objects on multiple layers
- Using non flash graphics
- Animations with motion and shape tweening
- More complex animation tasks
- Interactivity with frame action and buttons

9.3 Pictures, effects, images and colouring

- Incorporating colour techniques
- Placing type in an image
- Understanding layers
- Using layers to refine images
- Creating special effects

9.4 Web development platforms

- Paragraphs and layouts
- Working with images, links, tables, forms and URLs
- Using frames
- Layers and positioning
- Behaviour modifications
- Drawing timelines and customising web development tools
- Plug-ins and active content
- Tools for automating web pages
- Setting up a local site
- Managing web sites

9.5 **Scripting**

- Script development
- Incorporating script into HTML
- Basic command syntax/blocks
- Functions and objects
- Built-in objects and functions
- Looping
- Frames, documents and windows
- Database connectivity

9.6 **Animations**

- Animation tools
- Methods of animation
- e-commerce products and services
- e-commerce revenue models/ Financial models
- e-commerce site hosting options
- Digital technology
- e-signature
- Third parties
- Approval of e-contract

9.7 **Emerging issues and trends**

PAPER NO.10 FOUNDATIONS OF ACCOUNTING

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to account for various basic financial transactions, prepare and analyse financial statements

10.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Apply accounting concepts in preparation of financial statements
- Apply the double entry aspects of accounting
- Account for assets and liabilities
- Prepare financial statements of a sole trader, partnership and company
- Analyse financial statements

10.1 Introduction to accounting

- The nature and purpose of accounting
- Objectives of accounting
- Users of accounting information and their respective information needs
- The accounting equation
- Regulatory framework of accounting, regulatory bodies such as ICPAK, IFAC, IASB, accounting standards (IAS/IFRS) development, importance and limitation of accounting standards and professional ethics
- Accounting concepts/principles
- Qualities of useful accounting information

10.2 Recording transactions

- Source documents; quotations, purchases order, statement of account, remittance advice, receipts, petty cash vouchers, Sales and purchase invoice, credit notes and debit notes, bank statements
- Books of original entry; sales journal, purchases journal, returns inwards journal, returns outward journal, cashbook, petty cashbook and general journal.
- Double entry and the ledger; Use of T accounts and double entry aspects (debit and credit), sales ledger, purchases ledger and purchases ledger
- The trial balance
- Manual versus computerised accounting systems

10.3 Accounting for assets and liabilities

10.3.1 Assets

- Property, plant and equipment – recognition, capital and revenue expenditure, measurement (depreciation and revaluation), disposal and disclosures – property, plant and equipment schedule
- Financial assets – examples and categories only
- Inventory – recognition, measurement and valuation using specific cost method, FIFO and weighted average cost
- Trade receivables – bad debts and allowance for doubtful debts and receivables control accounts
- Accrued income and prepaid expenses
- Cash at bank – cashbook and bank reconciliation statement

- Cash in hand – cash book and petty cash books

10.3.2 **Liabilities**

- Bank overdraft – cash book and bank reconciliation
- Trade payables – control accounts
- Loans – accounting treatment of repayment of principal and interest
- Prepaid income and accrued expenses

10.4 **Correction of errors and suspense account**

10.5 **Financial statements of a sole trader**
- Income statement
- Statement of financial position

10.6 **Financial statements of a partnership**
- Partnership agreement
- Distinction between current and fixed capital
- Income statement
- Statement of financial position

10.7 **Financial statements of a company**
- Types of share capital – ordinary shares and preference shares
- Types of reserves – share premium, revaluation reserve, general reserves and retained profits
- Other liabilities – loan stocks
- Financial statements – income statement and statement of financial position
- Published financial statements – definition and a description of a complete set of published financial statements but not their preparation

10.8 **Not-for-profit organisations**
- Receipts and payments accounts
- Income and expenditure accounts
- Statement of financial position
- Fund accounting

10.9 **Financial statements of a manufacturing entity**
- Features of a manufacturing entity
- Classification and apportioning costs between manufacturing and selling and administration
- Financial statements – manufacturing account, income statement and statement of financial position

10.10 **Analysing financial statements**
- Statement of cash flows (categories of cash, methods of preparing statement of cash flows and their importance)
- Financial ratios – definition, categories, analysis and interpretation, application and limitations

10.11 **Emerging issues and trends**

PAPER NO. 11 INFORMATION SYSTEMS PROJECT SKILLS

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to manage an information systems project

11.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Manage project scope using various techniques
- Use project management software tools to prepare project schedules and Gantt charts
- Identify, monitor and control project risks
- Undertake an information systems project

CONTENT

11.1 **Overview of an information systems project**
- Definition of a project
- Project management principles
- Purpose of project management
- Project roles and responsibilities
- Information system project environment
- Characteristics of projects
- Examples of information system projects

11.2 **Information systems project lifecycle**
- Project identification
- Feasibility study
- Project selection
- Project objectives
- Project proposal
- Project design
- Project development
- Project implementation
- Project monitoring
- Project review

11.3 **Project scope management**
- Scope definition
- Scope verification
- Scope control
- Using a software tool to assist in project scope management

11.4 **Project planning**
- Components of a plan
- Introduction to a case study
- The project charter
- Work plans
- Control plans
- Functions of a good project plan
- Using software tools to assist in IS project planning

11.5 **Work breakdown structures**
- Determining project tasks
- Creating work breakdown structures (WBSs)
- Uses of WBSs
- Task dependencies and relationships
- Planning time scales
- The activity list

- Methods of subdivision
- Uses of WBS
- Using software tools to assist in creating WBSs

11.6 **IS project Estimation**
- Estimating accuracy
- Estimating concepts and methods
- Task-based estimation
- Effort, productivity factors, influence factors
- Using software tools to assist in IS project estimation

11.7 **Scheduling**
- Schedule concepts and methods
- Network diagrams
- Precedence logic
- Estimate duration
- Network diagrams – PERT, CPM
- Allocation of resources
- Gantt charts and histograms
- Using software tools to assist in scheduling and resource management

11.8 **IS project organisational structures**
- Organisational structures
- Integrating project work and project organisational structures
- Team management
- Project team life cycle
- Communicating
- Project documentation
- Managing stakeholders
- Using a software tool to assist in organisation and communication

11.9 **IS project quality management**
- Quality management
- Quality planning
- Quality assurance
- Quality control
- Tools and techniques for quality control
- Project quality factors
- Overview of project management standards (PRINCE 2)
- Software tools in project quality management
- ISO certification
- Change management
- Using a software tool to assist in quality management

11.10 **Information systems project risk management**
- Risk identification process
- Common sources of risk
- Risk management tools and techniques
- Risk analysis
- Risk monitoring and control
- Using a software tool in risk management

11.11 **IS project implementation, completion and evaluation**
- Managing transition
- Project evaluation
- Team evaluation
- Using a software tool to enhance project evaluation

11.12 **Emerging issues and trends**

PAPER NO. 12 COMPUTER APPLICATIONS PRACTICAL II

GENERAL OBJECTIVE

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to use computer application tools and systems in an organisation

12.0 **LEARNING OUTCOMES**

A candidate who passes this paper should be able to:

- Use a spreadsheet package
- Use a database package
- Use a desktop publishing package

CONTENT

12.1 **Spreadsheet software**

- Using features of a spreadsheet
- Creating , saving and retrieving existing workbook
- Editing and cell navigation
- Formatting worksheets
- Manipulating data using different Cell referencing methods
- Using formulae and functions
- Sorting, filtering and data validation
- Analysing data using what if analysis
- Inserting charts and graphs including pivot tables
- Summarising, consolidating and outlining data
- Automating simple tasks
- Printing worksheets

12.2 **Database software**

- Using features of a database
- Creating, saving and retrieving existing databases
- Identifying fields, data types, records and tables
- Establishing relationships between tables
- Manipulating data
- Searching data
- Sorting and filtering
- Adding charts, diagrams, tables and attachments
- Securing a database
- Automating simple tasks
- Configuring database start up options
- Printing from a database

12.3 **Using a desktop publishing software**

- Using features of desktop publishing software
- Creating different types of publications
- Creating, saving and retrieving files

- Setting page layout
- Typing and manipulating text
- Working with toolbars
- Identifying and using various icons in toolbars of the program including toolbox
- Drawing and manipulating various shapes
- Using the color palette
- Inserting the colour palette
- Inserting and manipulating images
- Importing and exporting files
- Setting borders
- Using merge tool
- Working with tables
- Designing and creating simple websites
- Automating simple tasks
- Printing a publication

12.4 **Emerging issues and trends**