Diploma in Business Information Systems

Syllabus

Business Information Systems Programme
Diploma in Business Information Systems

Syllabus

### Diploma Part 1

The **three compulsory** papers are:

1. Computer Applications in Business & Finance
2. Computer Fundamentals
3. Business Communication

Students must also pass **one** of the following subjects:

4. Organisational Behaviour (Management Pathway)
5. Accounting (Finance Pathway)

### Diploma Part 2

The **four compulsory** papers are:

1. Networks and Distributed Systems
2. Principles of Programming
3. Quantitative Methods
4. Systems Analysis

Students must also pass **one** of the following subjects:

5. Human Resource Management (Management Pathway)
6. Managerial Accounting (Finance Pathway)

* Diplomas Part 1 and 2 papers are set and marked to the level of the first year of a UK Business Studies degree programme.
* Upon completion of Diploma Part 1, the successful student will be sent a scroll. Following passes in the nine requisite Diploma subjects above, the student will be awarded the Diploma in Business Information Systems.
* It is suggested that 120 study hours should be devoted to each subject.
* It is recommended that students should sit the Diploma Part 1 examinations before attempting any subject in Diploma Part 2.
* Exemptions from Diploma subjects (up to a maximum of six subjects) may be granted to holders of qualifications of certain other professional bodies, provided that such qualifications have been obtained by external examination.

### Method of Assessment

The Method of Assessment for all ABE subjects is by written examination and the following Grades are awarded:

- **Grade A** – 70%+ Distinction
- **Grade B** – 55–69% Credit
- **Grade C** – 40–54% Pass
- **Grade D** – 30–39% Fail
- **Grade E** – 29% and below Fail

Candidates will be notified individually of their results normally about two months after the examinations.
Diploma in Business Information Systems – Parts 1 and 2

Conditions of Entry

Applicants should be recommended by two responsible persons. They must also have attained one of the following entry requirements:

1. ABE Certificate.

2. Two GCE ‘A’ levels together with four GCSEs at Grade C or above, including English language and Maths.

3. BTEC National award in relevant subjects.

4. Three passes in LCCI Third level in relevant subjects.

5. Four passes in RSA examinations at least two of which must be at Stage 111.

6. Pitmans Qualifications - Two passes at level 3 in relevant subjects.


8. Any NCVQ approved qualifications at level 3 in relevant subjects.

9. Such overseas qualifications which following University of London guidelines may be accepted by the Registrar as being equivalent to the above.

In addition the ABE welcomes applications for student membership from intending Diploma candidates who, although not holding a formal entry qualification, have been in appropriate employment for at least two years. A reference letter from employers must accompany all such applications.
Diploma in Business Information Systems – Parts 1 and 2

Registration Procedures

ABE Programmes are taught at institutions worldwide, and such institutions are given approval to run ABE courses only after they have submitted full details of their prospectus, teaching staff and site facilities which must meet the criteria set by the ABE Education Committee.

Students enrolling with a college are advised to ensure that the college has been formally accredited by the Association before enrolment. A list is available from the ABE office.

Students wishing to register with the Association should complete a registration form and return it to the Registrar together with appropriate fees, copies of educational qualifications (in English) and details of relevant working experience where necessary. Any incomplete applications will be returned.

All prospective students are advised to enrol with ABE at the commencement of their studies in order that their eligibility may be confirmed at that time.

Students should be aware of the closing dates for registration and examinations as these are strictly adhered to. These dates are available at ABE approved colleges or from the ABE office.

Annual subscriptions fall due on the anniversary of the date of registration. An invoice will be sent direct to each student.

Fees

Examination fees are indicated on Examination Entry Forms. The annual subscription and other current fees are shown on the Fees list available from ABE.

Exemption Procedures

Exemption applications must be supported by documentary evidence (in English) for assessment and accompanied by the current exemption fee. Any exemptions granted will be confirmed in writing.

Exemptions from Diploma subjects (up to a maximum of six subjects) may be granted to holders of qualifications of certain other professional bodies, provided that such qualifications have been obtained by external examination.

No exemptions will be granted from any subject previously failed in the examinations of the Association.

Further information on exemptions may be obtained on application to the Registrar.
Diploma in Business Information Systems – Part 1

Computer Fundamentals

The subject offers a general introduction to the world of computing with particular emphasis on the Personal Computer (PC) and its place in the wider world of networks and corporate information systems.

Aims

1. Introduce students to the basic components of a PC, so they have a clear basic understanding of the main hardware units at a macro level.
2. Introduce the relationship between information and data and the way computers use binary codes to represent data and instructions.
3. Stimulate analysis and to develop a critical approach to the observation of IT systems and networks in everyday use in typical retail and banking sectors.
4. Examine a wide variety of different types of software, from operating systems to development and applications packages, including an introduction to the Internet as a source of information.

Programme Content and Learning Objectives

After completing the programme, the student should be able to:

1. Describe the parts of a PC and how they are configured, using and explaining common terms and abbreviations.
2. Demonstrate awareness of the development of the Intel family of microprocessors and describe the architecture of a simple 8 bit microprocessor.
3. Describe a range of input/output devices and secondary data storage systems and be able to specify appropriate applications for them in the commercial world.
4. Understand the need for good file and disk management and describe how to list, move, copy, delete and recover files using Windows and DOS commands.
5. Describe a typical PC LAN and its component parts; demonstrate basic understanding of client–server and distributed processing systems.
6. Contrast and describe different processing methods and their relationship to the various categories of software, e.g system and development software as well as applications software.
Syllabus Content

1. Introduction to Computers

- Essential PC hardware, peripherals and software. How data is stored and manipulated in the computer.
- Computer configurations including PCs, terminals & workstations and how they can be connected to form networks to serve large and small businesses. Broad introduction to the main types of software.

2. Microprocessors and Semiconductor Devices

- More about number systems: Denary, binary, hexadecimal; simple arithmetic and logical operations on 8 bit binary numbers.
- 8 bit microprocessor architecture, including registers, memory addressing and the fetch/execute cycle.
- Memory devices, simple gates, review of current memory types at an appreciation level.

3. Information Processing

- Data capture devices, (including manual) techniques and their application to real world problems.
- Secondary storage devices; disks, tapes and CD-ROMs. VDUs, printers and other output devices.
- Comparing the use of DOS and WINDOWS 95/8 to control the PC and to manage the filestore effectively. Fundamentals of file organisation: filenames and conventions; serial and direct access.
- File backup and recovery.

4. Current IT Issues

- Open and Proprietary systems and compatibility: MACs and PCs.
- Multi-user systems: e.g. AS400 and UNIX platforms.
- Software Development: traditional programming languages (3GLs) versus 4GLs and RAD.
- Information system security, risk assessment, contingency planning and fallback.

5. Data Communications

- Introduction to Networks
- Star and Bus LAN topologies;
- Central and distributed computing;
- Wide area and global networks;
- The World Wide Web; Using the Internet and email effectively.
Method of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours.

The question paper will contain:

Seven questions from which five must be answered. All questions carry 20 marks.

Candidates will be expected to have done some practical work using DOS, WINDOWS95/8 and Internet browser software but this will not be directly assessed by ABE. Certain questions may test the student’s understanding of these systems and it would be difficult if impossible to answer such questions adequately without having had some practical experience.

Reading list:

Essential Reading

|--------------------|-----------|----------------------------------|

Additional Reading

|------------------------------------------------|-----------|------------------|

Guidance Notes for Tutors

Weighting of Topics and Sections

The course is divided into five more or less equal sections. If students are offered the recommended 36 hours tuition over, say, 12 weeks, then one would expect to spend about two weeks on each section with two weeks for revision.

1. Introduction to Computers

The idea here is to give a broad sweep introduction, with the emphasis on the main hardware parts of a PC, demystifying the jargon and acronyms. Candidates ought to be able to take a typical current PC advert and explain what all the abbreviations and terms mean, particularly the units of capacity and performance.

The differences, as well as the pros and cons, of various types of workstations and terminals in different work contexts should be clearly explained with examples. Candidates should expect to gain insights into the range and scope of Information Technology in both small businesses and large corporations.
When introducing software it would be a good idea to introduce newcomers to the Internet at this early stage. The formal definitions and explanations will be treated in section 5 on Data Communications, but a user’s introduction to searching and downloading information could be of value at the outset. Guidance will be needed in assessing the likely value, authority and accuracy of Internet sources as well as advice about avoiding plagiarism.

2. Microprocessors and Semiconductor Devices

Candidates should be able to add, subtract and perform “and”, “or” and “not” operations on 8 bit binary numbers and convert from binary to denary and vice versa. They should be able to draw a diagram of an 8 bit processor with an 8 bit bus having 16 bit memory addressing. They should know the names and functions of all the registers and be prepared to answer questions on the fetch/execute cycle. They should be able to understand and explain the function of simple instructions like MOV B, but they will not be required to program in assembler or binary code.

Candidates should understand how characters and numbers are stored and processed, e.g. ASCII codes, binary instructions and memory addresses. They should know the basic characteristics of the Intel Pentium family of processors and their lookalikes, and have a basic appreciation of the different kinds of memory chips found in commercially available PCs. Finally they should be able to put all this together showing a basic understanding of the layout of a PC motherboard and its block components, including expansion units, sound cards etc.

3. Information Processing

Candidates will be expected to describe typical data capture devices and methods including Bar Code Readers, Magnetic Card Readers, MICR, OMR, OCR and scanners. Exam questions will always feature a mini business scenario and candidates will be expected to apply their knowledge to the situation, rather than just regurgitating the facts parrot fashion.

Disk and tape storage should be understood at the simple physical level (e.g. addressing tracks and sectors), and candidates should be able to select the most appropriate storage medium for a wide range of tasks and processing methods. There is a clear link here with the information processing methods discussed in the next section. Output devices should be discussed more from the point of view of business and commercial applications than from a technical standpoint.

Candidates should be able to copy, move, delete and recover files using both DOS and WINDOWS, and manage tree structures, directories and folders. The functions of the autoexec and config files should be understood, and candidates should be able to recognise both system and application files and their functions from their names and extensions.

The concepts of online and offline processing should be introduced (but will be covered more fully in Computer Applications in Business and Finance) Students’ own experience of logging on to their internet provider to download emails and then logging off while they answer them will be a good way of explaining these concepts.

Basic aspects of security as it affects PC and LAN users should be covered, with emphasis on file and data security. Large scale measures against major disasters in the corporate IT context are introduced in this unit but will be covered at a higher level in the Advanced Diploma course Managing Systems Change.
4. Current IT Issues

This section looks at some of the issues that management has to address when formulating IT strategy. Useful illustrations might include the bid by Microsoft to gain control of the entire PC market and to dictate the development and configuration of hardware. (The so-called browser wars). The relationship between software and the platforms and operating systems upon which it runs must be discussed, using Apple Macs and PCs in the desktop context, and AS400s and so-called UNIX boxes in the multi-user context. What are the advantages and disadvantages of each position?

Candidates should know the stages involved in writing, editing, compiling and linking software using conventional procedural languages, but they are not expected to learn programming in this unit. They should know the differences between the 3GL development environment and the more interactive environment of 4GL and Rapid Application Development methods. This section should be thought of as preparation for the important subsequent module Contemporary Application Development Methods.

Candidates should understand and be able to differentiate between commonly used terms in risk assessment, e.g. danger, risk, vulnerability, exposure, loss, contingency, fallback and apply them to a typical security situation.

5. Data Communications

Candidates should be able sketch simple diagrams illustrating star and bus networks, and be able to distinguish between central multi-user servers and PC LAN servers and their functions. They should be able to discuss the pros and cons of LANs in terms of shared hardware and data, improved communications, centrally held software. The responsibilities of users and network managers should be understood.

The concepts of client server computing could be illustrated by practical reference to the use of (and access to) remote search engines on the web, and the local presentation of data using browser software running in the client. Candidates should be able to explain all the common terms and acronyms associated with the web, but they will not be expected to write HTML tags.

CHIEF EXAMINER’S COMMENTS

In this course, the emphasis is on the relationship between the technology and a range of business and commercial applications. A sound basic understanding of key technologies is required without going into minute detail. Each of the sections of this module has been designed to equip candidates to study such topics in greater depth in subsequent modules.

The Examination will be designed to enable candidates who have merely learned the facts to get the barest pass grade. In order to gain credit or distinction, candidates will need to able to show that they can apply their knowledge to a case study or even a simple but realistic scenario. Good answers must be related closely to the question and its context as marks cannot be awarded when candidates wander off the point, however factually correct such irrelevancies may be.

It cannot be emphasised enough that practical work, using DOS and WINDOWS together with an Internet browser and email software, is an essential component of the learning process in this course.
Computer Applications in Business and Finance

This course unit surveys the range of applications software used in business and finance and gets candidates to develop applications using a spreadsheet.

Aims

1. Introduce candidates to typical applications software used in business and finance.
2. Introduce the types of costs and benefits of applications software together with common issues in its implementation.
3. Explore the role of applications software through case studies from the finance and retail sectors.
4. Develop the candidate’s practical ability through the creation of simple applications using the Microsoft Excel spreadsheet including Visual Basic for Applications.

Programme Content and Learning Objectives

After completing the programme, the student should be able to:

1. Describe typical applications of software in business and finance.
2. Demonstrate an awareness of the cost and benefits involved in the adoption of IT sufficient to discuss and review its impact upon the organisation.
3. Critically analyse a case study and explain how the software contributes to the success of the operation.
4. Explain the potential and limitations of software for information systems.
5. Demonstrate an awareness of legal, ethical, social, economic and political consequences of the use of IT for individuals, organisations and society.
6. Use Microsoft Excel to develop solutions to simple business needs and incorporate simple macros using Visual Basic for Applications.
Syllabus Content

A survey of the range of typical applications software.

General business applications, sales order processing, stock control, accounts, payroll, e-mail, electronic diaries, EDI, e-commerce. Database applications, spreadsheet models, GIS. Real-time transaction processing, booking and inquiry systems, tele-sales, banking (ATM, CHAPS, BACS) retail (EPOS, EFTPOS).

Adoption of IT

The nature of contribution: efficiency, effectiveness, strategic. Types of costs and benefits, different stakeholders. Common issues in its adoption: legal, ethical, moral, social, health and safety, economic and political.

The Role of Applications Software

Modes of operation: batch, interactive, transaction and real-time. Methods of data capture, verification and validation. Analysis of case studies from the finance and retail sectors to explore the role and significance of computer applications.

Implementation

Types of software: system, application, bespoke, specific and generic packages. The stages of the system life cycle. Overview of the variety of techniques and methods. Planning and project management. Security needs and risk management. The concept of quality in software systems.

Spreadsheets

Spreadsheet principles, formula, functions, sort, formatting, charts, pivot tables, macros, printing, object linking and embedding. Creation of simple applications using Microsoft Excel. Creation and amendment of simple macros using Visual Basic for Applications.

Method of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours.

The question paper will contain:

Four questions, each question carries 25 marks.

One question will be compulsory, based upon a short unseen case study. Three further questions may be chosen from a selection of five. Candidates will be expected to have done practical work using both Microsoft Excel and Visual Basic for Applications but this work will not be directly assessed by ABE. Certain questions may test the student’s understanding of these systems and it would be difficult if not impossible to answer such questions adequately without having had some practical experience.
Reading List:

Essential Reading

The following two books map well onto the unit and tutors should choose one as the mandatory text.

|-------------------------------------|------------------|----------------------------------------|

This book provides a very comprehensive coverage of the topic profusely illustrated with case studies. However, it might be rather heavy for some students. Where this is considered the case, then it would still provide an invaluable resource for tutors.

|---------------------------------------------------------------|--------------------------------------|-----------------------------------------------|

Chapters 1 to 3 and 7 to 8 of this book would be the essential reading for this unit. Students should find the other chapters provide useful background reading although those areas are more specifically covered in other units.

Additionally, students will need a tutorial for Microsoft Excel. There are many books available within this category and it is left to tutors to choose the most appropriate for their circumstances. If a recommendation is required, then "Successful I.T. Projects in Excel" by P. M. Heathcote, Payne–Gallway Publishers 1999 ISBN 0 9532490 5 0 would serve any student well. The book is excellent and cheap at £8.00. Payne–Gallway's address is: 76-78 Christchurch Street, Ipswich IP4 2DE, UK.

Additional Reading

A number of A' Level or Advanced GNVQ Information Technology books would prove useful additional reading. The first example has particularly good case studies.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GNVQ Advanced Information Technology</td>
<td>Peter Hodson and Mike Watkins</td>
<td>Letts Educational 1997 ISBN 1-85805-111-8</td>
</tr>
</tbody>
</table>

Any business magazine, such as The Harvard Business Review which has excellent case studies, would be useful as background reading for students.
Computer and software access

Required

Microsoft Excel on either a PC or an Apple Macintosh platform.

Guidance Notes for Tutors

Topics 1 to 4 of the syllabus will be studied theoretically whilst topic 5, spreadsheets, is essentially practical. It is recommended that between one third and one half of the contact time, spread evenly throughout the unit, should be given over to the teaching and practice of spreadsheets. Students will also need access to Microsoft Excel during part of their independent study time.

This unit should draw on examples and case studies to illustrate the various points. This will probably be done using a combination of local examples that are familiar to candidates and international exemplars to illustrate the possible. Particular emphasis should be given to the finance and retail sectors.

1. Typical Applications Software

This section introduces candidates to the range of typical applications software used in business and finance. Candidates should have an understanding of both an application's role and its relationship to other applications. An example of this would be how a sales order processing system should not only process customer orders, but also integrate with the stock control and accounts systems. This example could be developed by looking at how some businesses have extended integration to the point where suppliers receive an automatic order via EDI; in other words, e-commerce.

Having described the core systems of a typical business, other types of application such as management information systems, business models, ad hoc databases as well as shared diaries and e-mail should be explained.

2. Adoption of IT

The justification for adopting any computer application has to be that it meets a business need. In looking at the benefits of an application, it is necessary to explore the nature of any contribution - efficiency, effectiveness, strategic - the particular application is intended to make. Candidates should be able to distinguish between the different types of costs and benefits that can relate to the adoption of IT and how each can be measured. These might include money, speed, volume, accuracy, staff morale and company image. They should also gain an insight into how different stakeholders can have different views about the value of these costs and benefits as well as the business needs.

Although local laws vary and are subject to change, there are generic issues in the adoption of IT that a candidate should be aware of: legal, ethical, moral, social, health and safety, economic and political. Candidates should be able to identify these issues and understand how they relate to local conditions.
3. The Role of Applications Software

This section considers the technical aspects of different application software. Candidates need to be able to describe the terms: batch, interactive, transaction and real-time process, listing the advantages and disadvantages of each and explaining their uses. They should understand the various methods of data capture and the need for data verification and validation. It needs to be made clear that these various elements are usually combined in all but the simplest environment and how this allows both the most appropriate solution to be selected and the maximum utilisation of resources.

An analysis of case studies from the finance and retail sectors should be used here to explore the role of the applications and the type of technical requirements they produce. For example, an analysis of an automatic teller machine (ATM) would contrast the need for current information in dispensing cash with the need for a quick response in displaying the ‘current’ balance.

4. Implementation

Candidates should be able to distinguish between system and application software. They should understand the advantages and disadvantages of bespoke development, off-the-shelf and customised packages. Candidates should be aware of the stages in the system life-cycle, the role of each in the effective deployment of computer applications in business and finance, and how appropriate techniques such as planning, data modelling and testing assist these.

Candidates should understand the risk to a computer system such as power failure, operator error, unauthorised access or major disaster and how these risks can be minimised. They should have an awareness of quality issues in software systems from exploring concepts like fitness for purpose as well as reliability and conformance.

5. Spreadsheets

Candidates must understand the concepts of spreadsheets as well as how to implement them within Microsoft Excel. It is essential, therefore, that they have explained the ‘Why’ as well as the ‘How’. They should be able to design their own solutions to the kind of small problems commonly found in business organisations. Examples would range from simple record keeping and charts for the annual report to financial models.

Candidates should cover the basic spreadsheet principles of cells, worksheets and workbooks and be able to write formulae and format cells. They should be able to save and print their work. They should be able to select and use appropriate functions including the IF function and Goal Seek. They should be able to incorporate filtering and sorting, look-up and pivot tables, and charts in order to select and present data within a spreadsheet. They should understand the concept of object linking and embedding (OLE) to incorporate a spreadsheet in other applications (experience of OLE a chart or table in Microsoft Word would be quite adequate for this unit). Candidates should understand the need for automating tasks and be able to record and amending macros.

Candidates should practice their skills and test their understanding by creating simple applications using Microsoft Excel and creating and amending simple macros using Visual Basic for Applications. Initially, such exercises may be no more than following a set of instructions, but candidates should move on to developing their own solutions.
Diploma in Business Information Systems – Part 1

Business Communication

Aims

1. Maximise personal business communication skills, necessary both within the organisation and for communication with external audiences.
2. Appreciate the internal mechanisms needed for business communication and how to ensure that these are effective.
3. Learn to deal with different types of data, particularly for the purpose of presenting information that is visually appealing and professionally produced.
4. Understand the role of information technology in the business communication environment and the efficiencies that these opportunities bring to the world of work.

Programme content and learning objectives

After completing the programme the student should be able to:

1. Business Communication: Background and Theory
   Understand the communication process, barriers to it, techniques for overcoming them and for assessing the effectiveness of communication.
   Acknowledge the different modes of communication, including face-to-face interactions, letters, memos, telephone contact, electronic mail, the internet and video conferencing and assess the relevant advantages and disadvantages of each one.

2. Written Communication: Modes of Communication and Computer Software Applications
   Produce and use appropriately a range of written communications including, electronic mail messages, memos, letters, briefs, direct mail, reports, press releases and job descriptions.
   Understand the key elements of word processing, including page layout, typefaces and fonts, and printing and other computer software applications.

3. Oral Communication: Presentations and Visual Aids
   Understand the purposes of presentations and speeches and how to prepare for their delivery.
   Demonstrate the choice and use of visual aids. Appreciate how to use the telephone effectively and the importance of listening skills.

   Identify the use of visual communications in the presentation of information, including the role and value of graphics and multimedia.
5. **Visual Communication 2: Using Statistical Data and Information**
Understand basic statistics and how to organise this data into statistical information as part of a visual presentation.

6. **Meetings and interviews: Structure, Content and Listening**
Identify different types of meetings and interviews. Understand the formal structures, procedures and documentation necessary for successful meetings and interviews.

7. **Information Technology and Business Communication**
Understand the use of information technology in business organisations, including telecommuting, work group computing, bulletin board systems, commercial services and use of the Internet, including global perspectives such as the worldwide web.
Appreciate the value of personal computing in communication, including word processing, desktop publishing, electronic publishing and presenting, and organising and gathering information via spreadsheets, databases and browsers.

8. **Input through Computer Hardware**
Appreciate the use of input devices such as the keyboard, pointing devices and scanners.

9. **Output through Computer Hardware**
Understand how output devices work, such as screen displays, large computer systems and microcomputer systems.

**Method Assessment**
By written examination. The pass mark is 40%. Time allowed 3 hours.

**The question paper will contain:**

Eight questions of which four must be answered. All questions carry 25 marks.

**Reading List**

**Essential reading**
To be confirmed

**Additional Reading**

<table>
<thead>
<tr>
<th>The Essence of Effective Communication</th>
<th>R. Ludlow and F.Paterson</th>
<th>Prentice Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers: Tools for an Information Age</td>
<td>H.L. Capron</td>
<td>Addison-Wesley</td>
</tr>
<tr>
<td>Practical Communications</td>
<td>Francis Bergin</td>
<td>Pitman</td>
</tr>
<tr>
<td>Improving Your Presentation Skills</td>
<td>Michael Stevens</td>
<td>Kogan Page</td>
</tr>
</tbody>
</table>
Diploma in Business Information Systems – Part 1

Organisational Behaviour

Aims

1. Clearly understand the meaning and nature of organisational behaviour and its importance and relevance to management in a dynamic and changing world.
2. Demonstrate in-depth knowledge and understanding of people within organisations through analysis of the individual processes at work.
3. Understand the nature of groups and group processes. Key principles and practices of management should be related to effective leadership and the resolution of conflict within organisations.
4. Appreciate the nature of interpersonal processes as they impact on people and work performance. Relevant processes include motivation and the creation of job satisfaction.
5. Assess the ways in which organisational performance may be improved through organisational processes, such as communication and better use of people.

Programme Content and Learning Objectives:

After completing the programme the student should be able to:

1. Understand the development of early management thought. This would include an appreciation of the main contributions of Scientific Management and Classical Management approaches to the study of people and organisations. Particular reference should be given to the work of F W Taylor, H Fayol and M Weber and the behavioural limitations of their approaches.
2. Understand the concept of a behavioural approach to management and recognise the value of behavioural science in understanding organisational behaviour. Identify and evaluate developments in organisational behaviour and management thinking. Develop an awareness and understanding of the ways in which human behaviour is influenced in organisations.
3. Outline the importance of the individual's contribution to the Organisation and factors affecting behaviour. Recognise the significance of attitudes, their functions, change and measurement with reference to the culture of the Organisation. Understand the process of perception, attribution and the problems that may arise. Differentiate between attitudes and opinions and understand problems arising from surveys and their assessment. Explain the principles and problems in the process of attitude change within the workplace and recognise the impact of behavioural issues on attitudes.
4. Appreciate the major difficulties in studying personality and approaches taken. Apply the key issues of personality studies to the Organisation. Understand the links between personality and motivation. Identify the nature and extent of the factors which create stress, assess its effects and appreciate the various types of adjustive reaction. Understand the role of the manager in stressful situations.

5. Define motivation and understand how people are motivated in different ways. Understand the basic theories of motivation and assess developments in thinking, in particular theories of expectancy, equity and an integrated model. Analyse problems of motivation in the work place and the links to effectiveness. Contrast the implications for the manager of different theories and evaluate their relevance to specific work situations.

6. Explain the nature and meaning of job satisfaction and its relationship to performance. Analyse the dimensions of job satisfaction and work performance together with the variables that affect them. Appreciate the sources of frustration and alienation at work and consider the role and effectiveness of performance appraisal. Understand and appraise the main approaches to improving job design and work organisation. Assess broader organisational approaches to job design including task/job characteristics, flexible working, involvement, empowerment, and quality circles. Understand the link between motivation, management style and job design.

7. Explain the meaning and nature of groups. Identify different types of groups and understand the process of group formation and development. Appreciate the factors influencing group cohesion and performance. Assess the determinants of group cohesiveness and effectiveness including social and interpersonal relationships. Distinguish between different functions and member roles in teams and teamwork. Assess the nature of team spirit and effectiveness. Recognise the importance of understanding the operation of work groups.

8. Understand the meaning and importance of leadership in work situations. Recognise the nature of leadership and the exercise of power and authority. Examine leadership as an aspect of behaviour and explore theories including trait, style and contingency. Appreciate the variables which determine effective managerial leadership.

9. Explain the sources and causes of conflict and the effects of conflict within the Organisation. Understand the role of the manager in the management of conflict, identifying both the positive and negative effects of conflict. Assess the managerial issues in conflict, understand different models and styles of conflict resolution and appraise their relevance for the manager in handling conflict. Analyse specific conflict situations and plan a strategy for reduction and/or resolution of conflict.

10. Specify the steps in the communication process and identify individual and organisational obstacles/barriers to effective communication. Examine the formal and informal communication systems and recognise the need for effective communication in the fulfilment of management functions. Appreciate the dimensions of non-verbal communication. Understand techniques and strategies to improve communications.
Method of Assessment

By written examination. The pass mark is 40%, Time allowed 3 hours.

The question paper will contain:

Eight questions of which four must be answered. All questions carry 25 marks.

Business format: candidates will be expected to comply with format requirements in questions. Marks for presentation will normally be awarded.

Reading List:

Essential Reading

<table>
<thead>
<tr>
<th>Management &amp; Organisational Behaviour</th>
<th>L Mullins</th>
<th>(Pitman)</th>
</tr>
</thead>
</table>

Additional Reading

<table>
<thead>
<tr>
<th>Management and Organisational Behaviour, a Student Work book</th>
<th>K Meudell and T Callen</th>
<th>(Pitman)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational Behaviour</td>
<td>R P Veechio</td>
<td>(Dryden Press)</td>
</tr>
<tr>
<td>Organisational Behaviour</td>
<td>D Buchanan &amp; A Huczynski</td>
<td>(Prentice Hall)</td>
</tr>
<tr>
<td>Organisational Behaviour</td>
<td>Greenbury &amp; R A Baron</td>
<td>(Prentice Hall)</td>
</tr>
<tr>
<td>Management Theory and Practice</td>
<td>G A Cole</td>
<td>(D.P. Publications)</td>
</tr>
<tr>
<td>Understanding Organisations</td>
<td>C B Handy</td>
<td>(Penguin) 1993</td>
</tr>
</tbody>
</table>
Diploma in Business Information Systems – Part 1

Accounting

Aims

1. Demonstrate an understanding of the theoretical framework of accounting and the principles underlying accounting statements.
2. Demonstrate an understanding of the applications of accounting systems using information technology.
3. Prepare and present limited company financial statements.
4. Evaluate the performance and financial position of organisations from their financial statements.

Programme content and learning objectives:

After completing the programme the student should be able to:

1. The Theoretical Framework
   - Scope and objectives of accounting.
   - The users of accounting information and their needs.
   - Traditional accounting conventions.
   - The distinction between capital and revenue expenditure.
   - Use of Information Technology in Accounting.

2. The Financial Statements of Limited Companies
   - External publication of companies' financial statements.
   - An understanding of the different elements that make up the externally reported financial statements.
   - An appreciation of the rules contained in Generally Accepted Accounting Practice.

3. Interpretation of Financial Statements
   - Application of financial ratios in order to help interpret financial statements.
   - Investors ratios.
   - Limitations of ratio analysis.
   - Accounting ratios and inflation: the impact of changing prices on financial statements and methods of adjusting historic cost accounts to reflect the impact of inflation.

4. Capital Structure and Gearing
   - Types of shares and loans.
   - Issue and redemption of shares and debentures.
   - The relationship between equity and debt-gearing.
5. Consolidated Accounts

- Principles of consolidation.
- Inter-company items and their elimination.
- Comparison of the acquisition method with the merger method.

6. Sources of Finance

- The various sources of finance available to businesses.
- Differentiation between short-term, medium-term and long-term sources of finance.
- An appreciation of the differing financing needs of organisations.

Method Of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours.

The Question paper will contain:

There are three sections to the examination paper:

Section A  Ten compulsory multiple choice questions. Each question carries one mark. 10 marks
Section B  One compulsory question. 30 marks
Section C  Four questions, two of which must be answered. Each question carries 30 marks. 60 marks

Financial tables will be provided. Students may use electronic calculators, but are reminded of the need to show workings.
Reading List:

Essential Reading

<table>
<thead>
<tr>
<th>Book Title</th>
<th>Author(s)</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting for Business Executives</td>
<td>Letza S R</td>
<td>CRICR</td>
</tr>
</tbody>
</table>

Additional Reading

<table>
<thead>
<tr>
<th>Book Title</th>
<th>Author(s)</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Accounting Vol 2</td>
<td>Wood F</td>
<td>Pitman</td>
</tr>
<tr>
<td>Accounting and Finance; a Firm Foundation</td>
<td>Pizzey A.V.</td>
<td>Cassell</td>
</tr>
<tr>
<td>Accounting Theory &amp; Practice</td>
<td>Glautier MWE &amp;</td>
<td>Pitman</td>
</tr>
<tr>
<td></td>
<td>Underdown B</td>
<td></td>
</tr>
<tr>
<td>Concise Guide to Interpreting Accounts</td>
<td>Blake J</td>
<td>Van Nostrand</td>
</tr>
<tr>
<td>Financial Accounting and Reporting</td>
<td>Elliott B and</td>
<td>Prentice Hall</td>
</tr>
<tr>
<td></td>
<td>Elliott J</td>
<td></td>
</tr>
</tbody>
</table>

Supplementary Journals

- Accountancy
- Accounting and Business
- Accountancy Age
- The Certified Accountant Students’ Newsletter

CHIEF EXAMINER’S COMMENTS

This unit surveys the range of typical applications software including accounts and payroll, database applications, real-time transaction processing, booking and enquiry systems. Brief case studies or scenarios should be used to provide illustrations from familiar banking and retail systems. An important practical element will enable students to develop simple but useful applications using the Excel spreadsheet.

NB examples of typical practical Excel exercises will be included. Colleges preparing candidates for the examination should grade such practical work, but the marks cannot be used for final assessment purposes. There will certainly be a question on the exam paper that relates to such exercises, set in such a way that a candidate who had done the exercise could manage and the candidate who had not would have difficulty.
Introduction

This unit introduces the learner to the fundamental concepts of computer programming, and of modern program development within a typical software development environment.

Aims

1. Learn the knowledge and skills required to write simple routines and programs.
2. Be able to design and implement effective spreadsheet macros and small utilities.
3. Provide a secure foundation upon which more advanced concepts can be built, such as object-orientation and rapid prototyping.
4. Create the practical framework to enable students to achieve useful programming skills in an object orientated programming language such as Visual Basic.

Programme Content and Learning Objectives

On completion of the programme, the student should be able to:

1. Edit, compile and run programs using a modern software development environment (e.g., Visual Basic).
2. Explain the theoretical and practical differences between compiled languages and interpreted languages.
3. Make appropriate use of the primitive data types Integer, Long, Real, String, Boolean and Date/Time (or their equivalents in the chosen language of study).
4. Create variables, use variables in assignment statements and write code to carry out simple arithmetic operations.
5. Use the main control constructs of selection and iteration.
6. Analyse and construct simple logical expressions using the logical operators AND, OR and NOT.
7. Carry out simple processing of arrays.
8. Use built-in functions of the chosen language of study.
9. Write and use programmer-defined functions and procedures, including the use of parameters.
Syllabus Content

Using a Modern Software Development Environment

Starting a new program; writing and editing program code; saving program files to disc; backing up program source files; loading program files back into the development environment; compiling programs; executing programs; interpreting error messages; recognising and correcting errors of syntax and errors of logic.

Compilers and Interpreters

Understanding the difference between compilers and interpreters, both in terms of their operation and in their effect on application development, deployment and maintenance.

Data Types

Integers, Long integers, Reals, Strings, Booleans, Date/Time; recognising the need for different data types; choosing the most appropriate data type for a given item of data.

Statements, Expressions and Variables

Declaring variables with specific data types; writing simple assignment statements; constructing simple arithmetic expressions. Distinguishing between expressions and statements.

Control Constructs

If-Then-Else statements; For-Next statements; test-before and test-after loops.

Logic

Truth tables; definitions of AND, OR, NOT; logical equivalence; Boolean expressions; relevance to programming.

Arrays

Declaring arrays; simple array processing – filling arrays with data; calculation of sum, arithmetic mean; finding largest/smallest element; linear search.

Built-in Functions

String related functions (e.g., length of a string, string slicing, case conversion); arithmetic functions (e.g., square root, absolute, sign, mod); type conversion functions (e.g., from Integer to Character and vice versa).

Programmer-defined Functions

Definition of simple functions; parameters and types; return types; defining return values; invocation of programmer defined functions.
Procedures

Definition of simple procedures; parameters and types; calling procedures.

Method of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours.

The question paper will contain:

Seven questions from which four must be answered. All questions carry 25 marks.

Although the exam is theoretical (candidates will not be asked to write program code) it is unlikely that a candidate will achieve a good grade unless they have completed and understood the practical parts of the module.

Reading List:

Essential Reading

I would strongly recommend the use of Visual Basic for this module, although the final decision must be left to the tutor, who will be aware of the constraints imposed by the particular learning environment in which the module is to be taught. There is no generic textbook that can be described as “Mandatory” for this module, but if the chosen language is Visual Basic, then Chapters 1 to 7 of the following book should prove very useful.

| Learning to Program with Visual Basics | Patrick G McKeown | Wiley 1999 |

If the tutor decides to use a different language then (s)he must supply an alternative text.

Computer & Software Access

Required

Access to a computer with a suitable modern language and development environment is essential for this unit.

Recommended


Guidance Notes for Tutors

It is recommended that the syllabus be followed mostly in the order given below, so that candidates can build on existing knowledge as they progress through the topics.
Using a Modern Software Development Environment

This section should furnish candidates with a set of good "housekeeping" skills. For example, starting each new project in a new folder; using the OS to copy the folder (not the individual files) for backup or transport purposes. It is important to acquire good habits and working procedures from the start, in order to avoid demotivating experiences such as seeming to lose one's work ("I saved my project but now I can't find it"). Also many candidates will want to work on their projects away from the classroom (e.g., at home) so they will need to transport their projects between sites on floppy disc or other removable media. As a project in a modern development environment such as Visual Basic can consist of a number of files, candidates will, in the early parts of the course, need to learn a few simple rules, which ensure that they can transport their work successfully. They should eventually learn more precisely the contents and significance of the various files, but this information is probably best introduced gradually, as their growing understanding equips them better to understand those details.

Although the details of particular kinds of syntax errors are best explained as they arise, as are logical errors, the distinction between syntax errors and logic errors should be introduced near the start. Some of the more common errors that they are likely to make in their first practicals – and the error messages that accompany them – should be explained.

Compilers and Interpreters

It is not expected that candidates will acquire an in-depth technical understanding of how compilers/interpreters work. They should however acquire a high level appreciation of the major difference in their approach to program translation and execution, and the consequences that this has on execution speed, development, deployment and maintenance/upgrades.

Data Types

The concept of data types should be introduced here. Candidates should appreciate the nature of the commonly available primitive data types. They should know the important differences between Integer and Long, for example, and between Integer types and real types. They should understand the limitations of size and accuracy of the different types, and how this is influenced by the number of bytes used to represent the data. However, it is not necessary to understand the details of their binary representation, or to be able to carry out binary arithmetic. The implications regarding what kind of data can be stored using particular data types and what kind of operations can be carried out on particular types of data, should be covered. Most importantly, candidates should be able to choose appropriate data types to represent a variety of data items, such as names, ages, mean values, very large distances, very small quantities and truth values.

Statements, Expressions and Variables

The concept of a variable as a store for a data value should be covered. Candidates should understand not only how to declare variables to be of a specific type, but also why it is important to do this for all variables. The assignment statement should be introduced here and the difference in the way that the computer interprets variable names on either side of the assignment operator should be explained. The common arithmetic operators (addition, subtraction, multiplication, division) are introduced, along with the concept of precedence and the use of parentheses. The fundamental distinction between a statement and an expression can be introduced here.
Control Constructs

This section should deal with the fundamental control constructs of sequence, selection and iteration, and candidates should learn how these constructs are used in the language of study. The importance of choosing the most appropriate construct for any given requirement should be stressed. In particular the use of the For-Next construct only when the number of iterations is known, or can be calculated, in advance, should be pointed out. Also the essential differences between while and until, and between pre-test and post-test, and when to use them, should be covered.

Logic

The purpose of this section is not to learn complex Boolean algebra, but to enable students to construct appropriate Boolean expressions in their selection and conditional iteration constructs. Purely intuitive understanding of the Boolean operators is not sufficient to write successful code. A basic understanding of Boolean concepts makes a huge difference to this aspect of programming. Hence the formal definition – using truth tables (a readily understood medium/tool) of AND, OR, NOT and XOR should be given, and the concept of logical equivalence should be covered. Candidates should also learn how to construct truth tables for Boolean expressions using up to three Boolean variables, and they should be able to use these tables to show that two expressions are (or are not) logically equivalent. Some examples should be given of logically equivalent expressions where one expression is clearly simpler than the other, and the use of this in programming should be made clear. For example, candidates should understand why the expressions <found = true> and <found> are logically equivalent.

Arrays

The aim is to give candidates a basic understanding of the concept of a collection of data items. Only simple one-dimensional arrays need be covered here, and only simple processing. Binary searches and sorting routines are not required. However the use of two “parallel” arrays should be covered. (For example matching student names with marks, and being able to look up the mark of a student, given a name.)

Built-in Functions

It is anticipated that many of these functions will be assimilated as they are used in appropriate contexts as parts of examples and exercises covering other areas of the syllabus. (For example, converting string representations of numbers into variables of numeric types.) However it may also be useful to issue an assignment in which candidates specifically research and summarise some the functions available in the language.
Programmer-defined Functions

This should be covered after candidates have become familiar with the use of built-in functions. It may be useful to present it as a mechanism for extending the language's repertoire of functions. Although languages vary in how strictly they enforce it, the notion that a function should return a result should be stressed, and candidates should be encouraged to always make their functions return a result – thus clearly distinguishing functions from procedures. Particular care should be taken to ensure that candidates fully understand the concept of parameters and how they make functions flexible and reusable. However the mechanisms of passing parameters by value and by reference can be glossed over at this stage, adopting the language's default mechanism in the examples. It is suggested that simple, one-line functions with just one parameter are used to start with, leading to functions no more complex than half a dozen lines, for example to calculate the sum of the contents of an array. Examples should be chosen to illustrate how a function can be invoked a number of times with different actual parameters.

Procedures

Again it may be useful to present procedures as extending the language's repertoire of available statements (such as Print and Input). See the notes regarding functions – many of the same considerations apply.

CHIEF EXAMINER'S COMMENTS

This module is aimed at business professionals who may need to know the fundamental concepts of programming. It is not intended to create expert programmers, but it is expected to provide a firm grounding for any candidates who decide to take application development further. Hence the emphasis throughout is on keeping the examples and exercises simple and ensuring that the concepts under study are firmly grasped, rather than getting too complex.

The theoretical aspect of the module MUST be backed up with plenty of practical exercises involving the candidate in actually writing small programs and executing them on a computer. Purely paper-based coding will not suffice. The examination will be such that a candidate who has understood the theory will gain a marginal pass. In order to attain a higher grade the candidate will have had to complete the practical exercises set by the tutor.
Diploma in Business Information Systems – Part 2

Networks and Distributed Systems

This course unit offers an insight into Enterprise Networks with an emphasis on their technological basis and corporate applications.

Aims

1. Build on the concepts introduced in Computer Fundamentals.
2. Provide an overview of the principles of telecommunications.
3. Examine the underlying technology to communications systems, especially those concerned with PC LANs and WANs, including the Internet.
4. Introduce the issues involved in the building and use of Open Systems and applications.

Programme Content and Learning Objectives

After completing the programme, the student should be able to:

1. Understand and apply basic data communications principles and concepts
2. Understand the importance of structured models such the OSI – ISO model
3. Identify different LAN technologies and understand their various differences, similarities, advantages and disadvantages
4. Describe distributed applications such as EDI, E-mail and understand their various differences, similarities, advantages and disadvantages
5. Understand the emerging role of client-server operation
6. Map TCP/IP onto the OSI model and apply to enterprise network architectures
7. Contrast de Jure, de Facto & Proprietary standards and understand their importance to business in making decisions about communications networks
Syllabus Content

Standards

Standards Bodies: De Jure, De Facto & Proprietary Standards Bodies & Regulators. Technology development and standards creation. An Introduction to layered models for business data communications, the ISO OSI 7-layer functional model.

Data Communication Concepts

End-to-End data communication. Simplex, Duplex, Synchronous, Asynchronous, Digital, Analogue, Serial & Parallel transmissions. Media, characteristics of signals; bandwidth. Modulation and demodulation principles using amplitude and frequency. Modems. Protocol basics. An introduction to character encoding (EBCDIC vs. ASCII) and data compression (lossless vs. lossy)

Local Area Networks (LANs)

Characteristics of network used in local area networks. Their topologies, transmission media and access techniques, and their associated IEEE 802 standards, including both wired & wireless LANs. Mapping various network models onto the ISO reference model. An introduction to high speed LANs & MANs. An introduction to structured wiring. LAN operating systems.

Wide Area Networks (WANs)


Interconnection & Internetworking


Applications

ISO & non ISO application protocols, such as X.400, X.500, FTP, SMPT and their use in e-mail, EDI etc., Client–server models. TCP/IP Enterprise networks such Intranets and Extranets. Meeting the needs of Businesses. The Internet.

Method of Assessment

By written examination. The pass mark 40%. Time allowed 3 hours.

The question paper contains:

Seven questions of which five must be answered. All questions carry 20 marks.
It is expected that candidates will have done some practical work which would involve access to the Internet using a browser and the use of message handling systems such as e-mail, as this helps to set the context for this unit of study, but this work will not be directly assessed by the ABE.

Reading List:

**Essential Reading**


**Additional Reading**

| Data Communications Computer Networks and Open Systems | Fed Halsall | 4th Ed., Addison-Wesley ISBN 0-201-56506-4 |
| Essentials of Data Communications | David Stamper & the Saratoga Group | Benjamin Cummings ISBN 0-8053-7736-0 |
| Business Data Communications | David Stamper | Benjamin Cummings ISBN 0-8053-7715-8 |

**Computer & Software Access**

**Recommended**

Internet Access either via a commercial Internet Service Provider (ISP) home service or from a workplace desktop facility (or CyberCafe/InternetCafe facility) so that students may become experienced in the use of Browser software and search engines. Use of electronic mail (e-mail) to include the use of Internet addresses, using enclosures, encoding and compression facilities.

**Guidance Notes for Tutors**

**Weighting of Topics and Sections**

This syllabus is comprised of 6 sections. With the exception of the section on Interconnection & Internetworking it is divided into more or less equal parts, with that for Interconnection & Internetworking being approximately half the work of any other section. If students are offered the recommended 36 hours tuition over say 10 weeks then one would expect to spend about 2 weeks per section.
I am assuming that Goldman's book will be used. The text has some very useful case study material that could be used by tutors to direct the students work outside the formal taught sessions. I understand that an Instructor's Resource Guide is available and it includes a CD-ROM of the book's diagrams and illustrations. Although I have neither used nor seen the guide and as such can't comment on its direct applicability I would recommend that tutors acquire it and modify it to support the course. In these notes I shall indicate sections within Goldman which do NOT form part of the course. Needless to say candidates may study these sections for interest at their leisure! In my opinion, the best information on the functional layers of the OSI model in Halsall's book. This book is at too a technical level for this course to use as the main text, but I would hope that tutors would find it particularly useful as a backup on technical issues for them, for in my view it is still one of the most clearly written books on data communications.

It is particularly important to get across the idea that networks and distributed systems exist to meet the needs of business and not for the good of technical support staff. Networks and distributed systems provision is expensive and needs to be cost effective to support business functions. Encourage students to look the newspaper business pages or the on-line services of the (London) Financial Times, (London) Times or New York Times, etc. In any of these publications there are regularly reports about the telecomms industry.

Standards

See Goldman chapter 1

As part of this section students should acquire a perspective of the Data Communications Industry. Goldman's fig 1.1 is an excellent mechanism to understand the components, forces and interactions concerned.

In addition is would be useful background to understand the position of the local national PTT(s). Goldman uses the breakup of Bell as a case study, but a good exercise for the students would be to write a short report about their local “players”. For example is the local PTT a state monopoly? what sort of services are provided? Who are the ISPs? etc.

The standards process: without going into how the ISO works, the students should be able to distinguish between de Jure, de facto & proprietary standards and how proprietary become de facto and in turn de facto become de Jure. The effect of this in terms of open systems standards.

Layered models: Goldman's Top-Down model makes a good introduction to the concept of logical functional layers which have clearly defined boundaries. The OSI models need only be used for functional mapping purposes. For example e-mail may be supported by either wired or wireless LANs and across WANs. Halsall (see section 1.4 for the ISO reference model) has a particularly useful section on the functions and shows the mapping to various services (see figure 1.10, Protocol Layer Summary). The ISO reference model is a useful vehicle to discuss most of the rest of the curriculum. Halsall section 1.5 on Open Systems Standards provides figures which give example mappings for international standards.
Data Communication Concepts

See Goldman chapter 2 and chapter 3.

It is important to be able to distinguish between the various types and modes of communication. I find it useful to describe the various ways of dividing the "communications cake" as some students seem to think that Simplex, Duplex (full + half), Synchronous, Asynchronous, Digital, Analogue, Serial & Parallel are just 8 states rather than 4 different views each with 2 states.

If you follow Goldman, figure 2.1 provides a useful perspective of end-to-end modem based communication.

Only a basic comparison between EBCDIC and ASCII will be necessary, i.e., no need to know the ASCII table, but they need to know that there are both graphical characters & control characters. Similarly they should know the difference between serial and parallel transmission, but will not need to know the technical details of the standards for the RS232, instead they will need to know that it exists and where it might be used.

Modem principles : I suggest that tutors use the I-P-O model in Goldman to introduce the concept of modulation. They should understand the general differences between frequency and amplitude modulation without studying the maths behind the principles. No need to cover phase modulation, QAM, Nyquist etc.. Table 2.23 is useful to provide the context.

Modem + data compression: Part of Goldman chapter 3 up to & including table 3.5

No need to know the details of modem standards or compression standards instead to know the difference between "lossless & lossy" for the latter. The section on Communications Software Functionality -Top-down approach to communications software analysis - at the end of chapter 3 should be included.

Local Area Networks (LANs)

See Goldman chapter 5. This provides a fairly full coverage of the material. Use the OSI – ISO reference model to show the mapping for LANs. As you’ll see, figure 5-4 is very useful and provides help with the course sections on WANs and Applications. Students should appreciate that IEEE 802.n and ISO 8802.n are essentially the same. This provides a nice link for the section on standards bodies so the students understand the role of standards makers in de Jure process. Describe the IEEE 802.n architecture including the latter part of the chapter on the introduction to high speed LANs.

See Goldman chapter 6 for background information on structured cabling. Students should know why there are different standards/categories and when it is appropriate the use them rather than the precise technical details.
Wide Area Networks (WANs)

*See Goldman chapter 8.* This gives a good basis for this section. The student should be able to contrast circuit-switched operation and packet-switched operation.

Connection-less and Connection-oriented operation: students should be able to compare datagrams and virtual circuit operation.

No need to include Broadband transmission architectures, Digital Service Hierarchy, SONET, the technical details of ISDN i.e. go as far as the information in figure 8.13. The introductory sections of X25 should be included as far error detection & correction which can be left for students to read for interest only. ATM is not included. Use the section on Internet Suite of Protocols Model in Goldman chapter 1 to discuss TCP/IP together with the section in Goldman chapter 7. There is no need to cover TCP/IP encapsulation.

Interconnection & Internetworking

*See Goldman chapter 9 & chapter 13*

Interconnection methods: It is important not to get bogged down in the details. The students need to understand that repeaters are (OSI reference model) level 1 devices, bridges are level 2 devices, routers are level 3 devices etc.. Chapter 9 as far as “routing protocols” provides most of the material. No need to include specific examples of commercial products. The tables of Repeaters & Bridges Technical Analysis provide a useful background, but would not be examined.

Security: see chapter 13. I suggest you use this chapter as far as the section on firewall functionality together with the section on encryption. i.e. “Authentication & Access Control” and “Applied Security Scenarios” are not required other than for background.

Applications

*See Goldman chapter 11*

ISO & non ISO application protocols: specific technical details are not required. The idea is for students to understand the principles of message handling systems and its importance to businesses e.g., their use in e-mail, EDI, electronic commerce. The start of Goldman chapter 11 as far as and including “Overall Enterprise Network Architecture” is useful. The sections on “Enterprise Network Logical Design” and “Enterprise Network Physical Design” are not required.

The Internet: Goldman chapter 11 sections on “The Internet as an Enterprise Network backbone” to the end but omitting product specific information, other than for background. Intranets and Extranets as TCP/IP Enterprise networks. Distinguish between Intranet & Extranet.

Client-server models: Simple definitions & models in terms of use in distributed systems. Goldman chapter 7 – details of operating systems are not examined.
Diploma in Business Information Systems – Part 2

Quantitative Methods

Aims

1. Achieve an overall understanding of how and why statistics and mathematics are used in economic and business decisions.
2. Demonstrate the ability to collect, present, analyse and interpret quantitative data using standard statistical techniques.

Programme Content and Learning Objectives:

After completing the programme the student should be able to:

1. Demonstrate an overall understanding of the data collection process.
   This includes sources of data, sampling methods, problems associated with surveys, questionnaire design, measurement scales (nominal, ordinal, interval and ratio scales) and sampling error.

2. Use a range of descriptive statistics to present data effectively.
   This includes the presentation of data in tables and charts, frequency and cumulative frequency distributions and their graphical representations, measures of location, dispersion and skewness, index numbers and their applications.

3. Understand the basic concepts of probability and probability distributions.
   This includes the basic ‘rules’ of probability, expected values and the use of probability and decision trees, the binomial and Poisson distributions and their applications, and the characteristics and use of the normal distribution.

4. Apply the normal distribution and the t distribution in estimation and hypothesis testing.
   This includes sampling theory and the Central Limit Theorem. The construction of confidence intervals for population means and proportions, using the standard normal distribution or the t distribution, as appropriate, and hypothesis tests of a single mean, a single proportion, the difference between two means and the difference between two proportions.
5. Use correlation and regression analysis to identify the strength and form of relationships between variables.

In correlation analysis, this includes the use of scatter diagrams to illustrate linear association between two variables, Pearson’s coefficient of correlation and Spearman’s ‘rank’ correlation coefficient and the distinction between correlation and causality. In regression analysis, students are expected to be able to estimate the ‘least squares’ regression line for a two-variable model and interpret basic results from simple and multiple regression models.

6. Demonstrate how time-series analysis can be used in business forecasting.

This includes the use of the additive and multiplicative models to 'decompose' time series data, the calculation of trends and cyclical and seasonal patterns, and simple forecasting.

7. Distinguish between parametric and non-parametric methods and use the chi-squared statistic in hypothesis testing.

This includes using the chi-squared statistic as a test of independence between two categorical variables and as a test of goodness-of-fit.

8. Show how mathematical relationships can be applied to economic and business problems.

This includes the algebraic and graphical representation of demand and supply functions and the determination of equilibrium price and quantity in a competitive market. It also includes the algebraic and graphical representation of cost, revenue and profit functions, with applications to pricing and output determination (including break-even analysis.)

Throughout, students will be expected to be able to define relevant terms and to interpret all results.

Method of Assessment:

By written examination. The pass mark is 40%. Time allowed 3 hours.

The question paper will contain:

Eight questions of which four must be answered. All questions carry 25 marks.

Probability tables for the binomial distribution, the normal distribution, the t distribution and the chi-squared distribution will be provided. Students may use electronic calculators, but are reminded of the need to show explicit workings.
Reading List:

**Essential Reading**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Publisher</th>
</tr>
</thead>
</table>

**Additional Reading**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Statistics for business and Economics</td>
<td>L. Kazrffier and N. Pohl</td>
<td>McGraw-Hill</td>
</tr>
<tr>
<td></td>
<td>M. Silver</td>
<td>McGraw-Hill</td>
</tr>
</tbody>
</table>
Diploma in Business Information Systems – Part 2

Systems Analysis

Aims

1. Understand the tasks involved in designing a new information system to meet an organisation’s specific requirements.
2. Create the major models used in the analysis and design of information systems.
3. Contribute towards the design of an organisation’s information system taking into consideration the technological and human aspects of the design.

Programme Content and Learning Objectives

After completing the programme the student should be able to:

1. Information Systems: Background and Theory.
   • Understand the development of systems analysis over the past century.
   • Understand how a system may be defined and its attributes identified.
   • Understand how information may be defined and its attributes identified.

   • Understand the need for, and the logic of, the Systems Development Life Cycle (SDLC).

   • Understand the need for a more thorough analysis of systems by the use of various structured approaches known under the generic term of Structured Systems Analysis (SSA).

   • Understand the reason for, and the creation of, Data Flow Diagrams (DFD’s).

5. Systems Analysis Tools and Techniques; the Entity Model.
   • Understand the reason for, and the creation of, Entity Relationship Diagrams/Models (ERD’s/ERM’s).

   • Understand the reason for, and the creation of, Entity Life Histories (ELH’s).

7. Systems Analysis Tools and Techniques; CASE tools.
   • Understand the need for Computer Aided Systems Engineering (CASE) tools in the work of a systems analyst.
   • Understand the use of prototyping techniques in the reduction of a system’s development time.

   • Understand the need for tools and techniques of project management, fact finding, documentation, quality management, interpersonal and presentation skills.
Method of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours

The question paper will contain:

Eight questions of which four must be answered. All questions carry 25 marks.

Essential Reading

|----------------------------|------------------------------------------|--------------------------------------|

Additional Reading

|-------------------------------|-------------------------|-----------------------------------|
Introduction

It is a truism to claim that people are an organisational resource - indeed, for some organisations, they are the key resource, without which the organisation would be unable to deliver any meaningful product or service to its customers. Like any resource, however, people may be used wastefully: they may be employed at well below their potential, performing tasks which do not stretch their capabilities and which are ultimately alienating in their psychological impact on the employees involved. Alternatively, people may be managed and led in ways which inspire them to be highly motivated and to demonstrate long-term commitment to both their roles and the organisation which employs them. When this is achieved, the performance of its people becomes a major differentiator for the organisation and a source of long-term competitive strength.

HUMAN RESOURCE MANAGEMENT is about the managerial and leadership processes which enable people to give of their best in today's turbulent working scenarios. To that end, the syllabus content is less concerned with the academic study of human and organisational behaviour, but concentrates more on the development of effective, pragmatic, yet innovative solutions to the issues surrounding the need to maximise people's productivity, efficiency and effectiveness.

Against this conceptual background, the aims for the subject are as follows:

Aims

To develop the student's knowledge and understanding of:

1. Individual differences, especially in such fields as learning, personality, motivation and attitudes, with particular reference to the relevance of such differences for recruitment, selection, deployment, development, and employee performance in an organisational setting.
2. The changing nature of the 'psychological contract' between organisations and their employees, together with the implications for employability, flexible working, commitment, and managerial leadership.
3. Each major dimension of human resource management in practice, i.e., human resource planning, recruitment, selection, induction, training/development, reward systems, and people review/appraisal.
4. Techniques for effective communication in all work-related situations, i.e., with subordinates and with seniors, through collective representational procedures, and with teams.
Programme Content and Learning Objectives

Note that all the following objectives are concerned principally with practical application rather than academic theory. Students will be expected to familiarise themselves with all relevant underpinning theories, but the emphasis in the tuition process and in the examination will concentrate on specific techniques for resolving human resource issues and for improving people performance across all types of organisation.

After completing the programme the student should be able to:

1. Differentiate the fundamental characteristics of people, with particular regard to such factors as culture, gender, ethnicity, personality, attitudes, and motivation, and assess the implications of such differences for the purposes of effective human resource management.

2. Clarify the mechanisms for individual and organisational learning, including ways of enhancing the effectiveness of deliberate learning processes and of overcoming the barriers to productive learning, again with a focus on the significance of learning from the viewpoint of enhancing organisational effectiveness.

3. Recognise the significance of the emergent ‘psychological contract’ in terms of new employer expectations about ‘added value’, employability, and the factors which will continue to influence the nature of employment in the vast majority of organisations.

4. Apply alternative systems of flexible working to meet fluctuating corporate needs.

5. Accept the obligations of ethicality governing the actions of managers, employees, and corporate entities.

6. Acknowledge the differences between 'management' and 'leadership' against a background in which organisations are moving from a focus on compliance to a desire for commitment, and recommend the installation of appropriate mechanisms for generating employee commitment in all types of corporate setting.

7. Maximise individual and collective employee performance, in specific organisational, functional, departmental or managerial scenarios, through effective motivation, job design, reward/recognition processes, and ‘performance management’.

8. Handle difficult people-management situations through systematic grievance-handling mechanisms, directive or non-directive counselling, coaching, and ultimately by means of disciplinary action and dismissal.

9. Apply each of the procedures and skills associated with the major arenas for personnel management, viz., human resource planning, recruitment, selection, induction, training/development, reward/recognition, review/appraisal, employee relations, welfare, health and safety responsibilities, discipline, and grievance-handling, in both remedial and continuous-improvement circumstances. (Several of these themes are mentioned elsewhere in the syllabus, but are repeated here in order to ensure completeness.)

10. Communicate effectively in all relevant organisational situations, i.e., meetings, presentations, and negotiating.
Method of Assessment:

By written examination. The pass mark is 40%. Time allowed 3 hours

The question paper will contain:

Eight questions of which four must be answered. All questions carry 25 marks

Reading List:

Essential Reading

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hall</td>
<td></td>
</tr>
</tbody>
</table>

Additional Reading

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Essential Guide to Developing Your Staff</td>
<td>Alasdair White</td>
<td>(London: Piatkus)</td>
</tr>
<tr>
<td>and Peter Riley</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Students should also read suitable quality newspapers and periodicals for articles about human resource management (covering new techniques or applications in named companies), and if possible should download up-to-date thinking via suitable search engines on the Internet.
Diploma in Business Information Systems – Part 2

Managerial Accounting

Aims

1. Understand the costing methods and techniques available.
2. Select appropriate methods and techniques which an organisation can use to calculate costs under different situations.
3. Construct budgets for both planning and control purposes, including cash flow forecasts.
4. Understand all aspects of working capital management.
5. Appreciate how information technology can assist when preparing information for management.

Program Content and Learning Objectives:

After completing the programme the student should be able to:

1. Understand the control systems required for materials, labour and overheads
   - the nature of costs
   - recognise the differences between fixed, variable, semi fixed and semi variable costs
   - problems of allocation/apportionment of overheads pricing of materials calculation of overhead recovery rates

2. Analyse data according to various cost classifications and the effect of volume on costs
   - cost volume profit analysis
   - comparison between the economist’s and the accountant’s cost volume chart

3. Recognise how cost systems differ by activity i.e. job and process costing
   - characteristics of process costing, equivalent units, methods of pricing
   - normal and abnormal waste, joint and by products
   - methods of apportionment of joint costs
4. Use of costs for short-term decision making

- marginal costing, key factors, opportunity costs, sunk costs, differential costs, qualitative aspects

5. Appreciate the difference between marginal and absorption costing

- format of a marginal profit statement, format of an absorption profit statement

6. Recognise the purpose of budgetary control

- construct budgets for both planning and control purposes. administration of budgets, roll over budgets, objectives of budgets, the budget key factor, functional budgets, master budgets, behavioural aspects of budgetary control
- zero based budgets

7. Explain the purpose of standard costing, calculate and analyse variances for materials, labour,

- overheads and sales, types of standards, preparation of operating statements

8. Explain the purpose of working capital management

- operating cycle, funding and control of working capital

9. Understand the uses of information technology when presenting management with information.

10. Capital Investment Appraisal and Financial Mathematics

- financial and non-financial factors to be considered when making investment decisions
- methods of investment appraisal including pay back, the time value of money and average rate of return
- the calculation of compound interest
- annuities and mortgages
- discounted cash flow
- net present value
- internal rate of return.

Method of Assessment:

By written examination. The pass mark is 40%. Time allowed 3 hours

The question paper will contain:

Six questions of which four must be answered. Five questions will be computational with written parts in the majority of these questions and one will be an essay question.

All questions carry 25 marks.
## Reading List:

### Essential Reading

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costing an Introduction</td>
<td>C. Drury</td>
<td>International Thompson</td>
</tr>
</tbody>
</table>

### Additional Reading

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management &amp; Cost Accounting 5th Edition</td>
<td>C. Drury</td>
<td>International Thompson</td>
</tr>
</tbody>
</table>

### Supplementary Journals
- Management Accounting (CIMA)