



**Oxford Cambridge and RSA Examinations**

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**GCSE IN APPLIED INFORMATION AND COMMUNICATION  
TECHNOLOGY: DOUBLE AWARD**

**1494**

**TEACHER GUIDANCE**

Qualification Accreditation Number 100/1971/6



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# 1 Introduction

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## 1.1 GCSEs IN VOCATIONAL SUBJECTS

### 1.1.1 Introduction

GCSEs in vocational subjects have been designed to contribute to the quality and coherence of national provision. They have been developed following widespread consultation by QCA in the autumn of 2000 and are based on Part One GNVQs which received positive Ofsted reports. GCSEs in vocational subjects have a clear place in the Government's vision for secondary education for the next ten years.

These GCSEs have been designed to form qualifications which provide the technical knowledge, skills and understanding associated with each subject at these levels so as to equip candidates with some of the skills they will need in the workplace or in further education or training. They allow candidates to experience vocationally-related learning so as to enable them to decide if it is suitable for them.

GCSEs in vocational subjects are ideal qualifications for those candidates who want a broad background in the subject area and the course of study prescribed by these specifications can reasonably be undertaken by candidates entering the vocational area for the first time. They are designed to enable candidates to make valid personal choices upon completion of the qualification and to progress to further education, training or employment. GCSEs in vocational subjects provide a suitable basis for further study in the chosen subject or for related courses which could include GNVQs, VCEs, GCEs, NVQs or Modern Apprenticeships. They are designed to be delivered in full-time or part-time education.

### 1.1.2 Titles

This suite of qualifications is known by the generic 'GCSEs in vocational subjects'. The formal title that will appear on candidates' certificates is 'GCSE in *subject* (Double Award)'.

The subjects currently available are:

- Applied Art and Design;
- Applied Business;
- Applied Information and Communication Technology (ICT);
- Applied Science;
- Engineering;
- Health and Social Care;
- Leisure and Tourism;
- Manufacturing.

## 1.2 ADMINISTRATION

### 1.2.1 Key Points to Remember

Each unit has a single form of assessment, either internal (portfolio) or external. External assessment is available in January and June from January 2004. Postal portfolio moderation is available in January and June from January 2004. Centres have a responsibility to enter candidates for the correct external assessments and portfolio units.

When entered for portfolio moderation, candidates' internal assessment scores must be submitted to OCR by a specified date (currently 10 January and 15 May). (See Section 1.2.3).

Candidates do not have to pass *all* three units to achieve the award. Good performance in some units can compensate for disappointing performance in others.

### 1.2.2 Registration, Entry and Certification

In order to offer GCSEs in vocational subjects, Centres should be registered with OCR. If a Centre is not already registered, this may be done through completion of a simple form obtained from the Centre Support Team at the start of the course of study. Centres are not required to register candidates with OCR.

Provisional entries are important because they form the basis for the despatch of coursework and early assessment materials to you and allow OCR to ensure sufficient examiners/moderators are recruited for a session. They are your best guess of the number of candidates you will be entering for particular units in that session. Centres should make provisional entries using form PE1N, currently by 21 September for the January session, and 5 November for the June session.

Entry forms are sent to Examinations Officers and should be returned to OCR by the published final entry date (normally during October and March) in order to enter candidates for January or June assessment. Entries must be made separately for each unit required, whether that unit is assessed externally or by portfolio.

Candidates choose when to claim their certificates. **A separate entry for certification must be made at the same time as the final unit entry. It is essential to remember to make this entry.** A fee is payable for each unit taken. There is no registration fee and no fee for certification.

### 1.2.3 Documentation

OCR will conduct all administration of the GCSEs in vocational subjects through the Examination Officer at the Centre. Teachers are strongly advised to liaise with their Examination Officer to ensure that they are aware of key dates in the administrative cycle.

Assessment Record materials, including full details of administrative arrangements for portfolio assessment, will be forwarded to Examination Officers in Centres following receipt of provisional entries. At the same time the materials will be made available within the Teacher's Guide and on the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)). The materials will include master copies of mandatory forms on which to record assessments and will also include optional recording materials for the convenience of Centres. Forms may be photocopied and used as required.

### **The Assessment Evidence Grids**

Centres are required to carry out internal assessment of portfolios using the *Assessment Evidence Grids* in accordance with OCR procedures. The process of using these grids is described in Section 2.4. Candidates' marks are recorded on these grids. One grid should be completed for each candidate's unit portfolio. These grids should be attached to the front of the candidate's portfolio for the unit when sent to the moderator.

When candidates are given their assignments, they should also be issued with a reference copy of the appropriate *Assessment Evidence Grid*.

Candidates' portfolios should be clearly annotated to demonstrate where, and to what level, criteria have been achieved. This will help in the moderation process. If teachers do this well it will be very much in the interests of their candidates. On completion of a unit, the teacher must complete the *Assessment Evidence Grid* and award a mark out of 50 for the unit. Details of this process are described in Section 2.4.

### **Submission of Marks to OCR**

The involvement of OCR begins on receipt of entries for a portfolio unit from a Centre's Examinations Officer. Entries for units to be included in any assessment session must be made by the published entry date. Late entries attract a substantial penalty fee.

By an agreed internal deadline the teacher submits the marks for the unit to the Examinations Officer. Marks will need to be available by the portfolio mark submission dates published by OCR, currently 10 January and 15 May, and internal deadlines will need to reflect this. OCR will supply Centres with *MS1 Internal Assessment Mark Sheets* to record the marks and with instructions for completion. It is essential that Centres send the top copy of these completed forms to OCR, the second copy to the moderator and keep the third copy for their own records.

#### **1.2.4 Portfolio Management**

Portfolio work needs to be clearly referenced for easy tracking. It is likely that candidates will produce or collect other materials during teaching and learning activities which should *not* be assessed and should *not* be submitted to the moderator.

Teachers should assess the work as specified in the *Assessment Evidence Grids*. Assessors are required to sign the *Unit Recording Sheets* to confirm that the portfolio work is the candidate's own unaided work. This does not prevent groups of candidates working together to carry out research, but it is important to ensure that each individual candidate's work covers the requirements of the *Assessment Evidence Grid*.

If a Centre is unable to authenticate a candidate's work it must *not* be submitted for assessment.

Centres must complete the appropriate Assignment/Unit Recording Sheet in full and attach it to each piece of work sent for moderation.

Portfolio work provided to a moderator should be easy to access. Candidates are asked to avoid the excessive use of plastic wallets. For subjects where evidence is posted to moderators, Centres are advised to remove work from bulky files, and to ensure that each candidate's work is clearly identified by Centre number, Centre name, Candidate number, Candidate name, specification code and title and unit code.

Portfolio work should be retained until after the published deadline for *Results Enquiries* has passed. Centres may need to consider how the work should be stored after internal assessment has taken place.

### **1.2.5 Candidate Choice and Course Selection**

OCR does not prescribe entry requirements for these GCSEs though appropriate levels of prior learning are specified in the introduction to the specifications.

OCR offers a range of qualifications which have differing assessment routes and may in some circumstances be more suitable for some candidates. These alternative qualifications include Entry Level Certificates, GNVQs, NVQs and OCR Entry Level Vocational Certificates.

### **1.2.6 Resources**

Some GCSE units have significant resource implications and it is important that these are taken into account in selecting which GCSEs to offer. It is important to ensure that appropriate resources are available.

Consideration will need to be given to developing teaching and learning resources, library facilities, ICT and workshop facilities, learning resource centres, etc.

Resources for Applied ICT should include access to appropriate hardware such as a PC and printer. Basic applications such as word processing, spreadsheet, database and presentation software may also be needed. Additionally it may be desirable to have access to a wider range of software including web browsers, desktop publishers, web page editing software, image manipulation software, e-mail and computer aided design packages. Additional hardware may also be needed to support this qualification, such as scanners, digital cameras and colour printers.



## 1.2.7 Moderation

Moderation will ensure reliability of a Centre's assessment of internally assessed portfolio work.

Centres are required to undertake internal standardisation prior to submission of portfolio scores for moderation. The moderator is required to consider a sample of candidates' work independently. Whilst moderators may seek clarification from a Centre, they cannot negotiate portfolio scores in any way.

The moderator must consider whether or not the Centre's assessment is reliable within a defined level of tolerance. The moderator may recommend an increase or reduction in marks for a particular unit, as appropriate.

It is important to ensure that the rank order in a Centre is correct. If Centre assessment is inconsistent, work will be returned to the Centre for re-assessment.

The following principles for the procedure for external moderation have been agreed:

- moderation will occur in both January and June;
- for each subject, the Centre submits to OCR marks for the required portfolio units, for a defined cohort of candidates;
- the moderator selects a sample of candidates;
- the moderator reviews the marks awarded for some or all portfolios to ensure correct application of national standards;
- any necessary adjustments are proposed by the moderator and checked by OCR officers prior to the application of scaling;
- the moderator completes a feedback form for each Centre;
- there will be a feedback report at the end of the moderation process from OCR;
- moderation will be by post. Remember to consult OCR for exact details ([www.ocr.org.uk](http://www.ocr.org.uk)).

## 1.3 TIMETABLE FOR ASSESSMENT

### 1.3.1 External Assessment Dates

External assessments are offered in January and June from January 2004.

External assessments are held over a period of several weeks. Centres should check Final Examination Timetables for specific dates. This information is also available on the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)).

### **1.3.2 Portfolio Moderation**

Portfolio moderation is offered in January and June from January 2004.

### **1.3.3 Results Issue**

Results will be issued in March and August, as currently for GCSEs.

## **1.4 PLANNING A PROGRAMME**

### **1.4.1 Team Approach**

Consideration of a team approach is recommended, with a view to identifying staff responsible for and time devoted to:

- candidate induction;
- delivery and assessment of the units (portfolio and externally assessed);
- candidate guidance and counselling;
- regular assessment planning and feedback;
- internal standardisation;
- delivery and assessment of Key Skills (if integrated into the programme).

### **1.4.2 Time to Plan**

Substantial time is needed for planning the programme, allocating team members' responsibilities, developing assignments and assessments, evaluation and review of the programme.

### **1.4.3 Candidate Induction**

Candidate induction should include familiarisation with:

- the 'vocational' process, encouraging candidates to take responsibility for their own learning;
- all candidate sections of the specification as appropriate;
- the *Assessment Evidence Grids*;
- the Key Skills units and signposting (if appropriate);
- organisation and referencing of portfolios.

#### 1.4.4 External Links

Development of external links with local employers and FE colleges can provide an important resource for vocational GCSE programmes for:

- provision of source materials;
- professional and practitioner input;
- candidate visits;
- work experience;
- teacher placements;
- other means of increasing staff vocational expertise.

#### 1.4.5 Delivery Models

Delivery models may vary and Centres may decide on:

- separate delivery of each unit;
- an integrated approach that uses teaching and learning activities across two or more units.

#### 1.4.6 Timing

Consideration must be given to the timing of the delivery and assessment of units, whether externally tested or internally assessed (see Section 3).

### 1.5 UNIT STRUCTURE

Units will have some or all of the following sections:

*About this Unit* includes a brief description for the candidate of the content, purpose and vocational relevance of the unit. It states whether the unit is assessed externally or through portfolio evidence.

*What You Need To Learn* helps to develop the teaching and learning programme so that the candidates are able to produce the assessment evidence and are prepared for external assessments. *What You Need To Learn* is a framework for teaching and learning. It is written to be clear to candidates. It may be necessary to explain or introduce technical terms and concepts.

Producing the *Assessment Evidence* will allow the candidates to show that they can apply their skills and understanding of the key concepts of the unit. Although teachers must cover everything in the unit in the *What You Need To Learn* section, the candidates have to produce *only* the evidence stated in the *Assessment Evidence Grid* to meet the requirements of each portfolio unit.

*You Need to Produce* draws on all the learning detailed in *What You Need To Learn*, and specifies higher order activities which require the candidates to bring together the knowledge, skills and understanding and apply them to a vocational context. The assessment evidence requirements are designed to be flexible enough to allow teachers to make use of local opportunities.

The specific requirements to achieve the different grades available are outlined in the three columns.

Achievement of higher grades builds on the lower grades. At higher grades candidates can be expected to show increased sophistication and independence in their work.

In certain units additional tasks will be required for candidates to achieve higher grades. Teachers should refer to the *Guidance for Teachers* for further clarification. The *Guidance for Teachers* also gives suggestions on how to deliver the unit and how to emphasise its vocational context.

*Key Skills Guidance* provides signposts on how and where aspects of the Key Skills evidence can be integrated into the learning activities or the assessment evidence for the unit. This section does not replace the Key Skills units. Centres may prefer to use alternative Key Skills opportunities in the candidate's learning programme.

## **1.6 ASSESSING PORTFOLIOS**

### **1.6.1 Applying the Assessment Criteria**

The starting point in assessing portfolios is the *Assessment Criteria* within each unit. These list the skills, knowledge and understanding that the candidate is required to demonstrate. The *Guidance for Teachers* within the unit expands on these criteria and clarifies the level of achievement the assessor should be looking for within a candidate's work. General issues are also covered in the *Introduction* to the specification.

A further source of material will be the *Standardisation Handbook* which will be produced by OCR and available to all Centres at the Autumn INSET sessions. It may also be ordered from Publications ([publications@ocr.org.uk](mailto:publications@ocr.org.uk)). The Handbook includes examples of candidates' work, which help to exemplify standards.

In the Autumn and/or Spring terms OCR holds *Training Meetings* on Portfolio Assessment run by senior moderators. Details of these are in the OCR INSET booklets or they may be obtained from the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)) or from Training and Customer Support Division (tel. 01223 552950).

OCR has formed a network of *Portfolio Consultants*. These are senior moderators who are available to give written advice to Centres on assessment of portfolios. Further details may be obtained from the appropriate Subject Officer (See Section 1.10.5).

## 1.6.2 Recording Achievement

Unit Recording Sheets are provided by OCR. Additional copies may be obtained from the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)). Your Examinations Officer should also have a copy of these materials.

Teachers are required to keep a record of candidates' achievements and to indicate where the criteria have been achieved. This document should accompany the portfolio for the unit when sent to the moderator.

## 1.7 GRADING

GCSE (Double Awards) are graded on a scale from A\*A\* to GG.

### 1.7.1 Unit Grades

Teachers assess each portfolio unit and award a raw score on a scale of 0-50. The evidence required to support the award of marks is given in the *Assessment Evidence* section of each unit. The OCR awarding committee will consider portfolios and will determine the grade thresholds for each unit.

The following table indicates the notional thresholds for the unit, but these are subject to adjustment by the awarding committee.

| Grade | A*A* | AA | BB | CC | DD | EE | FF | GG |
|-------|------|----|----|----|----|----|----|----|
| Mark  | 45   | 40 | 35 | 30 | 25 | 20 | 15 | 10 |

The externally assessed unit will be marked by OCR. The maximum raw score will be stated on the front cover of the question paper.

### 1.7.2 Uniform Marks

Once the raw score for each unit has been established, it will be converted by OCR and reported to candidates as a Uniform Mark out of 100.

Uniform marks correspond to *unit* grades as follows:

|               | A*A* | AA | BB | CC | DD | EE | FF | GG |
|---------------|------|----|----|----|----|----|----|----|
| UMS (max 100) | 90   | 80 | 70 | 60 | 50 | 40 | 30 | 20 |

Candidates who fail to achieve the standard for a grade GG will be awarded a Uniform Mark in the range 0-19 and will be recorded as U (unclassified).

### 1.7.3 Qualification Grades

The uniform marks awarded for each unit will be aggregated and compared to pre-set boundaries. Results for the qualification will be awarded on a scale of A\*A\* to GG and will be recorded on the certificate as such.

Uniform marks correspond to *overall* grades as follows:

|                      | <b>A*A*</b> | <b>AA</b> | <b>BB</b> | <b>CC</b> | <b>DD</b> | <b>EE</b> | <b>FF</b> | <b>GG</b> |
|----------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>UMS (max 300)</b> | 270         | 240       | 210       | 180       | 150       | 120       | 90        | 60        |

Candidates who fail to achieve the standard for a grade GG will be awarded a Uniform Mark in the range 0-59 and will be recorded as U (unclassified).

## 1.8 KEY SKILLS

Key Skills form a separate qualification. However the Key Skills guidance within these qualifications has been designed to support the teaching, learning and assessment of both the GCSE and the Key Skill qualification. The signposting within each unit has been developed to show how vocational and Key Skills achievement can be successfully combined.

Each unit contains guidance on how Key Skills can be demonstrated through that unit. Teachers should refer to the Key Skills specifications in conjunction with the GCSE units.

For further information contact the Key Skills Team at OCR's Coventry office (tel. 024 7647 0033).

## 1.9 FREQUENTLY ASKED QUESTIONS

*An updated set of Frequently Asked Questions may be found on the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)).*

### 1.9.1 Administration

**Q** How do I *register* that I want to do GCSEs in vocational subjects?

**A** *Any Centre that is registered with OCR for existing GCSEs will be automatically registered for these GCSEs in vocational subjects. There is no additional Centre Approval process.*

*Centres that are not currently registered for any GCSE qualification with OCR should contact the Centre Support team (tel. 01223 553443) and will be asked to complete a straightforward registration form.*

**Q** Will candidates have a single candidate number for existing GCSEs and these GCSEs in vocational subjects with OCR?

**A** *Candidates should have a single candidate number for both GCSEs and GCSEs in vocational subjects taken with OCR in a given examination session. A different number may, however, be allocated for entries in different sessions. In addition, for GCSEs in vocational subjects (as for all OCR unit based specifications) a 13-digit Unique Candidate Identifier (UCI) will be required, which should remain unchanged for all qualifications and all examination sessions.*

**Q** Will candidates still have to register for these GCSEs?

**A** *No. Candidate entry is made in October for January units and March for June units.*

**Q** Will candidates be able to enter these GCSEs through EDI?

**A** *Yes.*

**Q** When will results be available?

**A** *Both unit and certification results will be available in March and August (at the same time as other GCSEs) **provided that moderation deadlines have been met**. In 2004, the first certification results will be available in August.*

## **1.9.2 Grading and Assessment**

**Q** Can a candidate *fail* an individual unit and still pass overall?

**A** *Yes. Candidates can compensate for relatively weak performance in a unit with relatively strong performance in the other two. The final grade is dependent on the total marks.*

**Q** Will candidates be able to decline their award?

**A** *No.*

**Q** Does candidate evidence have to fulfil *all* the requirements specified in the banner of the *Assessment Evidence Grid* to achieve a grade G?

**A** *No. The banner specifies the context in which the evidence must be presented and outlines how the points are awarded for the unit, but points equivalent to a grade G may be obtained even though some requirements may not be met. The assessment model used is a **compensatory** model where weakness in an area can be overcome by strength in other areas.*

**Q** What happens to the candidate who has not achieved a first column criterion (in the *Evidence Assessment Grid*), but has achieved a criterion in a later column for the same assessment strand?

**A** *Candidates' work need **not** necessarily fulfil the requirements of the first column criteria (in the Evidence Assessment Grid) before their work can be assessed against criteria in later columns. A 'best fit' approach is to be used. The teacher decides, for each assessment strand (i.e. each row in the grid), which of the three descriptions best fits the work being assessed. The marks awarded to all the strands are aggregated to arrive at the mark for the unit portfolio.*

**Q** Can a candidate lose marks for handing work in late?

**A** *No. Evidence should only be assessed against the assessment criteria and no additional criteria may be added. However, candidates must hand in work in sufficient time to enable Centres to meet OCR's deadlines.*

**Q** How many times can an assessor mark candidates' work before it is submitted for external moderation?

**A** *Candidates' work can be referred and feedback provided as many times as the assessor sees fit before final assessment and marks allocation. However, assessors should be aware that some criteria require candidates to work independently and repeated feedback could prevent achievement of such criteria.*

**Q** Are witness statements, observation records etc. acceptable evidence for a unit?

**A** *All forms of evidence are acceptable providing they **meet the requirements** of both the banner and criteria. This type of evidence is very much within the spirit of vocationally related awards. All witness statements, observation records etc. should be as detailed as possible **and clearly referenced** against the criteria. However, this type of evidence is unlikely to provide the sole source of evidence for a unit.*

**Q** How do we know if we are applying the national standard when assessing candidates' work?

**A** *OCR and other organisations will be providing support through events and publications and after the first round of moderation you will receive written feedback on how your assessments met national standards.*

*OCR will produce a series of publications which exemplify standards.*

**Q** Should candidates' work be internally standardised?

**A** *Yes. The Code of Practice requires that OCR provides you with instructions to ensure that your internal standardisation arrangements reflect the requirements of moderation. Centres need to standardise candidates' work internally to ensure that standards are being applied consistently. Centres should satisfy themselves that standards are comparable between units within a subject.*



- Q** What forms will the external assessments take?
- A** *Generally these are single papers, marked out of 100, of one and a half hours duration. Exceptions are Applied Science which is a single tiered paper marked out of 70 and Applied Art and Design which is a ten hour practical based on pre-release material/work.*
- Q** Is full coverage of the criteria necessary to pass the external assessment?
- A** *External assessment will cover **all** the criteria associated with the unit. Each question has a number of marks attached to it. These are totalled to give a final mark irrespective of which criteria the questions related to. The final mark is compared to the boundary mark for each grade determined by the awarding body and this final mark is converted to a Uniform Mark Score.*
- Q** What does it mean when OCR say there will be a *three mark tolerance* in the external moderation of portfolio units?
- A** *Provided there is consistently **no more** than a three mark difference between the marks you award to a candidate's work and that awarded by the moderator, **your** assessment and allocated marks will not be adjusted. If **all** the differences between moderator and Centre marks are three or less, then the Centre marks are accepted.*

### 1.9.3 Miscellaneous

- Q** Do teachers of GCSEs in vocational subjects need to have worked in the vocational area they are teaching?
- A** *No, but Centres need to ensure that teachers have sufficient up to date knowledge and experience to be able to teach/assess a unit appropriately. There are a number of routes available by which staff may gain a vocational insight and these are to be encouraged e.g. work shadowing, mentoring.*
- Q** Do teachers of GCSEs in vocational subjects need specific qualifications such as GPA or D units?
- A** *No. Centres need to ensure they have the staff resources required for effective teaching/assessment of each GCSE. This may necessitate in-house training for teachers and those responsible for internal standardisation to ensure consistency in the interpretation and application of national standards.*
- Q** How will Centres trigger the moderation process?
- A** *By entering candidates for the portfolio units.*

- Q** Will candidates be able to resubmit portfolio work for assessment?
- A** *Candidates may rework their portfolios in consultation with their teachers. Moderators will, of course, need to know what additional advice has been received. After the portfolio has been formally assessed and the marks submitted to OCR, candidates may re-submit that portfolio **once more** at a later session in order to improve their mark.*
- Q** Will candidates be able to rework portfolio work for assessment *after* marks have been submitted to OCR?
- A** *No. Once marks have been submitted no further work may be undertaken in that session.*
- Q** Will re-sits of *external* assessments be available?
- A** *Yes, but candidates may re-sit each external assessment **once** only prior to certification. The higher mark will count towards the qualification.*
- Q** What happens to the candidate who is entered for external assessment but does not attend?
- A** *The entry is **not** counted for re-sit purposes but will score zero if they choose to aggregate.*
- Q** What does a moderator do?
- A** *Your moderator will sample your assessments of candidate work to ensure that internal assessments are to the appropriate national standards. Moderators will **not** discuss the work of individual candidates and will **not** be providing advice and guidance to Centres. Your Centre will receive written feedback from the awarding body at the end of the moderation process.*
- Q** What is the difference between *internal* standardisation and *external* moderation?
- A** ***Internal** standardisation should ensure consistency of assessment decisions within a Centre whereas **external** moderation ensures that individual Centre assessment decisions are in line with national standards. Candidates' marks allocation may be adjusted as a result of moderation if Centres assessment decisions are significantly different from those of the moderator.*

**Q** What are the *procedures* for external moderation?

**A** *The following principles have been agreed:*

- *moderation will occur in both January and June;*
- *for each subject, the Centre submits to OCR marks for the required portfolio units, for a defined cohort of candidates;*
- *the moderator selects a sample of candidates;*
- *the moderator reviews the marks awarded for some or all portfolios to ensure correct application of national standards;*
- *any necessary adjustments are proposed by the moderator and checked by OCR officers prior to the application of scaling;*
- *the moderator completes a feedback form for each Centre;*
- *there will be a feedback report at the end of the moderation process from OCR;*
- *moderation will be by post. Remember to consult OCR for exact details ([www.ocr.org.uk](http://www.ocr.org.uk)).*

**Q** What happens if Centres do not submit *sufficient* candidate work for moderation before the cut-off date?

**A** *OCR will not be able to guarantee candidates results will be available on the advertised dates, though it will make every effort to do so. Centres that are unable to meet these deadlines must write to OCR explaining their reasons.*

**Q** How much teaching time will the new GCSEs in vocational subjects require?

**A** *The new GCSEs in vocational subjects will require equivalent teaching time to **two** existing GCSEs.*

## **1.10 HELP AND SUPPORT**

### **1.10.1 General Information**

The OCR Website address is: [www.ocr.org.uk](http://www.ocr.org.uk)

### **1.10.2 General Enquiries on GCSEs in Vocational Subjects**

Contact the OCR Information Bureau on 01223 553998 or e-mail [helpdesk@ocr.org.uk](mailto:helpdesk@ocr.org.uk)

### **1.10.3 Requests for Publications**

Tel: 0870 870 6622

Fax: 0870 870 6621

E-mail: [publications@ocr.org.uk](mailto:publications@ocr.org.uk)

### **1.10.4 Entries**

Entries are made through Examinations Officers. Enquiries relating to entries should be made only by Examinations Officers to the Candidate Data team on 01223 552599.

### **1.10.5 Subject-Specific Support**

For all subject-specific enquiries other than those listed above, help and support is available from OCR Subject Officers: Applied ICT Tel: 01223 553157.

### **1.10.6 In-Service Training**

Contact the Training and Customer Support team on 01223 552950.

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## 2 The Mechanics of Grading Portfolios

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### 2.1 SOURCES OF GUIDANCE

The starting point in assessing portfolios is the *Assessment Evidence Grid* [see Section 2.2] within each portfolio unit in each specification. These contain levels of criteria for the skills, knowledge and understanding that the candidate is required to demonstrate. The *Guidance for Teachers* within the unit expands on these criteria and clarifies the level of achievement the teacher should be looking for when awarding marks.

At INSET sessions in the Autumn term OCR will provide examples of candidates' work which help to exemplify standards around grades AA, CC and FF that have been agreed with QCA and the other Awarding Bodies.

In the Autumn and Spring terms OCR will hold training meetings on portfolio assessment led by senior GCSE moderators. Details are in the OCR INSET booklets which are sent to Centres in the Summer term or they may be obtained from the Training and Customer Support Division on 01223 552950. They are also published on the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)).

OCR also operates a network of Portfolio Consultants. Centres can obtain advice on assessment of portfolios from an OCR Portfolio Consultant. These are both subject specialists and senior moderators. Details may be obtained from the OCR Subject Officer or Helpdesk (see Section 1.10).

## 2.2 ASSESSMENT EVIDENCE FOR ASSESSMENT UNIT 2: BUSINESS SYSTEMS PORTFOLIO

You need to produce a report of an investigation of **two** different organisations' use of ICT together with original documents for different business purposes and an ICT system for a given situation for **one** of the organisations. This must include coverage of:

- a** how and why the organisations use ICT, the hardware and applications software used and how these meet the organisations' needs [8 marks];
- b** the documents used by the organisations to communicate internally between individuals and departments and externally with customers and suppliers [6 marks];
- c** the use of word processing, publications and presentation software to produce original documents for different business purposes [9 marks];
- d** the use of a dataflow diagram to represent the flow of information in a given system [6 marks];
- e** the design of the ICT system [4 marks];
- f** the implementation of the ICT system [6 marks];
- g** testing and evaluation of the ICT system [6 marks];
- h** user documentation for the ICT system [5 marks].

| A typical candidate at grades GG, FF, EE will:   | A typical candidate at grades DD, CC, BB will:   | A typical candidate at grades BB, AA, A*A* will:  | Mark | Max      |
|--|--|---|------|----------|
| <b>a1</b> Identify how the organisations use ICT, the information requirements of some systems and the hardware and application software used.<br><p style="text-align: right;"><b>0 1 2 3 4</b></p> | <b>a2</b> Describe how the organisations use ICT, the information requirements of most major systems and the hardware and application software used.<br><p style="text-align: right;"><b>5 6</b></p> | <b>a3</b> Explain why the organisations use ICT and how the hardware and application software used meet the organisations' needs and help them to communicate and function effectively.<br><p style="text-align: right;"><b>7 8</b></p> |      | <b>8</b> |
| <b>b1</b> Describe the content and layout of documents used by the organisations.<br><p style="text-align: right;"><b>0 1 2 3</b></p>  | <b>b2</b> Make informed suggestions about the writing and presentation styles used by the organisations in their documents.<br><p style="text-align: right;"><b>4 5</b></p>                          | <b>b3</b> Draw logical conclusions about the standards for business documents and use these when producing your own documents.<br><p style="text-align: right;"><b>6</b></p>  |      | <b>6</b> |

|  |  |  |              |           |
|--|--|--|--------------|-----------|
| <p><b>c1</b> Produce straightforward business documents that match their purpose and the target audience by making basic use of word processing, publication and presentation software.</p> <p style="text-align: right;"><b>0 1 2 3 4</b></p> | <p><b>c2</b> Produce more complex business documents that use appropriate writing, presentation and layout styles by making use of more features of word processing, publication and presentation software.</p> <p style="text-align: right;"><b>5 6 7</b></p> | <p><b>c3</b> Use what you have learned from studying organisations' documents, and the full range of software facilities to produce business documents that meet their intended purpose, are appropriate for the target audience and that are accurate, clear and consistent. <b>8 9</b></p> |              | <b>9</b>  |
| <p><b>d1</b> With help, identify the information flows in a simple system and produce a dataflow diagram.</p> <p style="text-align: right;"><b>0 1 2 3</b></p>   | <p><b>d2</b> Investigate the information flows in a system and produce a dataflow diagram.</p> <p style="text-align: right;"><b>4</b></p>  | <p><b>d3</b> Analyse the information flows in a system and produce a comprehensive dataflow diagram.</p> <p style="text-align: right;"><b>5 6</b></p>  |              | <b>6</b>  |
| <p><b>e1</b> Produce a basic design specification for a system. <b>0 1 2</b></p>   | <p><b>e2</b> Produce a detailed design specification for a system. <b>3</b></p>  | <p><b>e3</b> Produce a comprehensive design specification for a system. <b>4</b></p>   |              | <b>4</b>  |
| <p><b>f1</b> Produce brief records of the implementation of the system. <b>0 1 2</b></p>   | <p><b>f2</b> Produce clear records of the implementation of the system. <b>3 4</b></p>   | <p><b>f3</b> Produce comprehensive records of the implementation of the system. <b>5 6</b></p>   |              | <b>6</b>  |
| <p><b>g1</b> Carry out simple tests to check that the system meets the design specification. <b>0 1 2</b></p>  | <p><b>g2</b> Test the system under a range of conditions to ensure that user requirements are met. <b>3 4</b></p>  | <p><b>g3</b> Carry out a detailed evaluation of the system, which checks the outcomes against user requirements, and produce records of any modifications and improvements made. <b>5 6</b></p>  |              | <b>6</b>  |
| <p><b>h1</b> Produce a basic user guide to the system. <b>0 1 2</b></p>  | <p><b>h2</b> Produce a detailed user guide to the system. <b>3 4</b></p>   | <p><b>h3</b> Produce a comprehensive user guide to the system that would allow a novice user to use the system efficiently. <b>5</b></p>   |              | <b>5</b>  |
| <p>Note: Although you will be given an interim mark out of 50 by your teacher, this might be adjusted by OCR to make sure that your mark is in line with national standards.</p>   |  |  | <b>Total</b> | <b>50</b> |

## 2.4 DETERMINING A CANDIDATE'S MARK

Each unit portfolio should be marked by the teacher according to the criteria in the *Assessment Evidence Grid* [See Section 2.2]. This specifies the evidence candidates need to produce in order to meet the requirements of each portfolio unit. It is divided into the following parts:

- *You need to produce* – this banner heading sets the context for providing the evidence, e.g. a report, an investigation, etc;
- *A typical candidate at grades GG to EE etc. will:* – this describes the quality of the work a candidate needs to demonstrate in order to achieve the grades specified.

Each row in the grid comprises a strand showing the development of a given criterion and corresponds to a point (**a, b, c** etc.) in the banner.

Each column describes the work undertaken by a candidate working within a range of grades. The criterion in the first column describes typical attainment of a candidate working within the range of grades GG to EE. The second column describes the work of a typical candidate working at grades DD, CC and the lower half of grade BB whilst the third column describes the work of a typical candidate working at the upper half of grade BB, grades AA and A\*A\*.

The maximum mark for that strand is shown in the right hand column.

Teachers use their professional judgement and circle the mark that *best fits* the work of the candidate and also record it in the column headed *Mark*.

Centres should use the full range of marks available to them; Centres must award *full* marks in any band for work which fully meets the criteria. This is work which is 'the best one could expect from candidates working at GCSE (Double Award) level'.

Only one mark per strand/row will be entered. The final mark for the candidate is out of a total of 50 and is found by totalling the marks for each strand.

Example: For a candidate's work that comfortably satisfies criterion **b2** and may be perceived as equivalent to the work of a grade CC candidate, a mark of **5** should be awarded on the scale for this strand of 0-6.

| A typical candidate at grades GG, FF, EE will:  | A typical candidate at grades DD, CC, BB will:   | A typical candidate at grades BB, AA, A*A* will:   | Mark     | Max      |
|---|--|--|----------|----------|
| <p><b>b1</b> Describe the content and layout of documents used by the organisations.</p> <p style="text-align: right;"><b>0 1 2 3</b></p> | <p><b>b2</b> Make informed suggestions about the writing and presentation styles used by the organisations in their documents.</p> <p style="text-align: right;"><b>4</b> <b>5</b></p> | <p><b>b3</b> Draw logical conclusions about the standards for business documents and use these when producing your own documents.</p> <p style="text-align: right;"><b>6</b></p> | <b>5</b> | <b>6</b> |



The further guidance below provides strategies for assessment activities, clarifies the criteria in the *Assessment Evidence Grid* and exemplifies the type of skills that candidates will demonstrate. It will help you to determine the appropriate mark to be awarded for each strand. The marks should then be added to give a total mark out of 50. Section 2.8.1 in the specification explains how this mark will be converted to unit grades.

Candidates should not commence the production of evidence for this unit of assessment until they have completed their study of Modules A and B.

The two organisations chosen for the investigation should be as different as possible. Suitable choices would be a large organisation that is heavily dependent on ICT systems and a small organisation that makes only limited use of ICT. The latter would also provide candidates with the opportunity to create a useful ICT system for the organisation. Ideally, candidates should carry out the investigation first hand by visits, work experience placements, interviews with representatives from the organisations etc. Information gained in this way can then be augmented by accessing the organisations' websites, where available, and the use of case study material. The organisations to be used may be given by the teacher or suggested by the candidate. However, if the candidate suggests the organisations, the teacher will need to check carefully that they are suitable, and that the candidate can gain access to the type of information required.

In addition, candidates will need to collect a range of documents used by the organisations being investigated and, for those candidates aiming for the highest grades, by other organisations as well. They then need to produce documents for different business purposes. Suitable documents would include business letters, memos, flyers, newsletters and presentations amongst others. Candidates working at the highest grades will use what they have learnt from studying organisations' documents to inform their document production.

Finally, candidates must design and implement a system to meet a given situation in one of the organisations they have investigated. The system should either replace and update an existing ICT system, or replace a manual system. As suggested above, if one of the organisations makes only limited use of ICT, this would provide realistic opportunities for candidates to develop a suitable system.

In developing the system, candidates will need to apply their knowledge and skills of hardware and software applications. They might, for example, develop a system to keep records of stock and sales in a small shop using database or spreadsheet software. Alternatively, they might create a system for a library to keep records of members, books and loans in a database. This could be used to merge data into a word processed letter to members with overdue books. The starting point for any such system will be an investigation of the information flows involved and the production of a suitable dataflow diagram to represent them. Candidates will need to produce a design specification, implement the system, test and evaluate it and then produce instructions to allow someone else to use it.

| Criterion | Exemplification   |
|-----------|---|
| <b>a1</b> | Candidates will list and make brief comments on the organisations' use of ICT, information requirements, hardware and software. To gain 1 mark, candidates must give at least <b>one</b> use of ICT by each organisation, along with the information requirements and the hardware and application software for at least <b>one</b> system.   |
| <b>a2</b> | Candidates will produce several sentences on each of the organisations' uses of ICT, and the information requirements, hardware and application software for most major systems. The quality and completeness of their descriptions will determine whether 5 or 6 marks are given.  |
| <b>a3</b> | At this level candidates will be able to recognise the organisations' needs. They will provide cogent explanations why the organisations use ICT to meet these needs and the ICT systems used. Again, the quality and completeness of the explanations will determine the mark awarded.   |
| <b>b1</b> | Candidates should describe the content and layout of at least <b>two</b> documents from each of the organisations being investigated. Their descriptions should include key features of the documents. This might include the sender's and receiver's addresses, a salutation, a complementary close etc. on a business letter. The descriptions should also include features of presentation and layout such as the use of colour, columns etc. in a newsletter.   |
| <b>b2</b> | Candidates should identify the purpose and target audience for each document. They should suggest how the writing and presentation styles used meet, or do not meet, these purposes.  |
| <b>b3</b> | Candidates will need to study documents from a number of different organisations to enable them to draw general conclusions about the standards that are expected in business documents. They will then apply what they have concluded to the production of their own documents.  |
| <b>c1</b> | Candidates will create at least <b>three</b> documents - one with each type of software - to meet straightforward given purposes. These might include a simple business letter, a flyer and a presentation - perhaps to market a product or service - of two or three slides. They will use default settings for page layout but will be able to enter and format text and incorporate clipart and other graphic images. The documents produced should meet their purpose and be appropriate for the target audience. They should show that they can check their work for errors. |
| <b>c2</b> | <p>The documents produced by candidates might include business reports, newsletters and more extensive presentations. They will use document formatting features such as:</p> <ul style="list-style-type: none"> <li>• headers, footers and bullet points;</li> <li>• copy, paste and move text to improve the readability of documents;</li> <li>• incorporate tables;</li> <li>• wrap text around images and objects.</li> </ul> <p>They should check their work and correct obvious errors.</p>  |

| Criterion | Exemplification  |
|-----------|--|
| c3        | Candidates should produce documents of near professional standard. These documents will exhibit a <i>house style</i> . The documents will clearly meet their intended purpose and be appropriate for the target audience. Candidates will use a range of facilities to produce documents such as mail-merge facilities to produce a mail shot. The documents produced should be virtually error free.  |
| d1        | Candidates will require considerable help to identify the information flows in a system. A suitable system for study might be the video loan system mentioned above. Having been helped to identify the information flows, candidates should then be able to produce a simple dataflow diagram to represent them. The mark awarded will depend on the amount of help needed and the accuracy of the diagram produced.  |
| d2        | Candidates will be able to identify the information flows in similar systems for themselves and produce a suitable dataflow diagram.   |
| d3        | Candidates will need to analyse more complex systems to identify the information flows. The dataflow diagrams they produce should clearly show all the information flows in the system.  |
| e1        | <p>A basic design specification will include simple statements that:</p> <ul style="list-style-type: none"> <li>• identify the user requirements;</li> <li>• indicate from where information will be obtained;</li> <li>• identify inputs, process and output required;</li> <li>• identify the type of application software needed.</li> </ul> <p>The system itself will be a simple one that can be implemented using <b>one</b> type of application software.</p>   |
| e2        | <p>A detailed design specification will:</p> <ul style="list-style-type: none"> <li>• clearly state the user requirements;</li> <li>• clearly specify sources of information;</li> <li>• describe in detail the input, process and output required;</li> <li>• identify the type(s) of application software to be used.</li> </ul> <p>The design specification should also include some indication of how the system will be tested. The system may be more complex, integrating features of more than one type of application software.</p> |
| e3        | A comprehensive design specification will include details of all aspects of a complex system, including a detailed specification for testing the system.   |
| f1        | Candidates must produce sufficient records to show that they have implemented the system. This may include a list or diary of the steps carried out, along with examples of input data and the output obtained.  |
| f2        | Candidates should describe clearly what they have done to implement the system, including screen prints and examples of input and output.  |
| f3        | The comprehensive records that candidates produce should enable someone else to recreate the system.   |
| g1        | Candidates should provide evidence in the form of screen prints or printouts to show that the system produces the required output for some inputs.   |
| g2        | The tests carried out should include normal, abnormal and extreme inputs.  |

| Criterion | Exemplification   |
|-----------|---|
| <b>g3</b> | Candidates should fully test the system as indicated in their test specification both during implementation and after it is completed. They should keep a record of any modifications or improvements they make as a result of testing.                       |
| <b>h1</b> | Candidates will produce a simple list of instructions that tell a user how to: <ul style="list-style-type: none"> <li>• open the software;</li> <li>• input data;</li> <li>• obtain output;</li> <li>• print the output;</li> <li>• save and exit.</li> </ul> |
| <b>h2</b> | The user guide will include detailed instructions, along with some screen prints of menus, input screens etc.   |
| <b>h3</b> | The user guide will use a range of techniques including extensive use of annotated screen prints. It will provide detailed instructions on using the system in non-technical language.  |

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## 3 Delivering the Specification

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### 3.1 STRUCTURE OF THE SPECIFICATION

This specification is split into **three** teaching modules:

Teaching Module A: ICT tools and applications;

Teaching Module B: ICT in organisations;

Teaching Module C: ICT and society.

As its name suggests, Module A provides candidates with the necessary skills and knowledge of ICT tools and applications to allow them to study the other two modules effectively. The skills and knowledge gained through studying Module A will also underpin the production of portfolio evidence.

The teaching modules are assessed using **three** units of assessment as described below.

#### **Assessment Unit 1: ICT Knowledge and Understanding**

This comprises a written test which covers the whole ability range grades GG to A\*A\*. The questions will relate to those sections of all **three** teaching modules that are shown in italics in the specification. A range of question types will be used, appropriate to the range of grades being awarded.

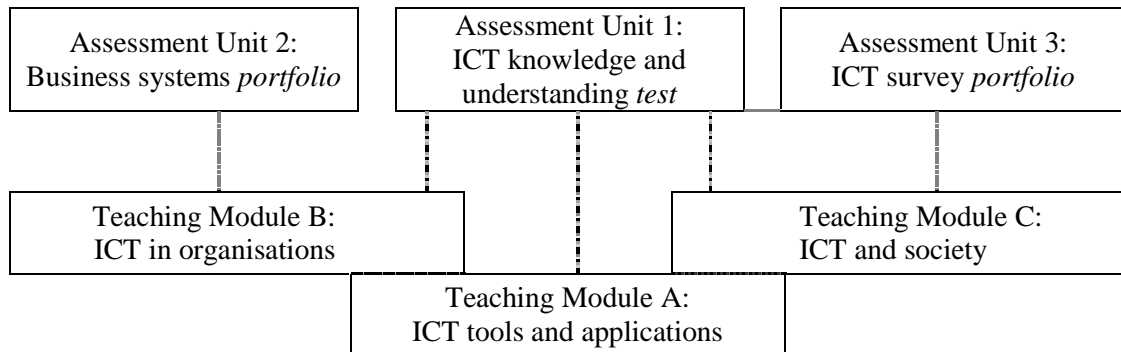
#### **Assessment Unit 2: Business Systems Portfolio**

This unit assesses the knowledge and skills acquired by studying Teaching Module B as well as knowledge and skills in related ICT tools and applications developed while studying Teaching Module A. The unit requires candidates to produce a report comparing **two** different business organisations' use of ICT, original documents for different business purposes and an ICT system for a given situation for **one** of the organisations.

#### **Assessment Unit 3: ICT Survey Portfolio**

This unit assesses the knowledge and skills acquired by studying Teaching Module C as well as knowledge and skills in related ICT tools and applications developed while studying Teaching Module A. The unit requires candidates to produce a report of a survey they carry out and a presentation of their research describing the technologies available to access and exchange information and carry out transactions and detailing the impact of ICT developments on business, working styles and employment opportunities, personal communication, community activities and people with special/particular needs.

The relationship between the teaching modules and the assessment units is shown in the following diagram.



### 3.2 DELIVERING THE SPECIFICATION

As this specification leads to a double award, the time allowed on the timetable should be equal to twice that of any other optional subject. Normally four to six lessons would be sufficient. It may be helpful if at least two of these lessons are timetabled as a double lesson of two hours duration. This would allow greater scope for visits, visiting speakers, practical activities etc., especially if these lessons were immediately preceding or following a lunch break or the end of the day.

There are many possible ways of organising the teaching, learning and assessment of this qualification, although there are some constraints relating to the order of delivery.

- Candidates need to gain the relevant knowledge and skills detailed in Teaching Module A: *ICT tools and applications* before progressing to Modules B and C.
- The content of Teaching Module B: *ICT in organisations* should be delivered before the relevant portfolio evidence for Assessment Unit 2: *Business systems portfolio* is attempted.
- The content of Teaching Module C: *ICT and society* should be delivered before the relevant portfolio evidence for Assessment Unit 3: *ICT survey portfolio* is attempted.
- Assessment Unit 1: *ICT knowledge and understanding* will need to be attempted towards the end of the course as it draws on aspects of all three teaching modules.

### 3.3 DELIVERING THE SPECIFICATION OVER TWO YEARS

#### 3.3.1 A Possible Two Year Programme of Delivery:

| Term | Delivery  | Assessment  |
|------|---|---|
| 1    | Teach Module A: <i>ICT tools and applications</i> |   |
| 2    | Teach Module B: <i>ICT in organisations</i>       |   |
| 3    | Complete Unit 2 portfolio.                        | Unit 2 portfolio.                                   |
| 4    | Teach Module C: <i>ICT and society</i>            |   |
| 5    | Complete Unit 3 portfolio.                        |   |
| 6    | Prepare for Unit 1 examination.                   | Unit 3 portfolio;<br>Unit 1 test;<br>Re-sit Unit 2. |

The time required for Teaching Module A: *ICT tools and applications* will depend on the candidates' prior experience of using applications software. Where they have benefited from a thorough programme of study in Key Stage 3, this module may not require as long. The early part of Term 6 can be used to enable candidates to revisit those aspects of the modules that are examined in the external assessment.

#### 3.3.2 A Possible Two Year Scheme of Work – Model One:

The following analysis is based on the assumption that schools will spend four lessons per week of curriculum time on the course. It is assumed that a lesson is one hour long. Allowance must be made for the effects of training days and other curriculum squeezing activities, such as work experience, preparation for trial/mock examinations, examination time and study leave. It is assumed that most year 10 candidates will spend a maximum of 35 weeks on the course and year 11 candidates will spend a maximum of 25 weeks on the course. This gives a grand total of 60 weeks whereby candidates can be expected to be totally focused. This model also assumes that only one teacher is delivering the course. Other models are, of course, possible.

##### Term 1: Teaching Module A

| Week   | Topic  |
|--------|--|
| 1      | Introduction to course; discussion about the different types of application software available and suggestions as to the types of need met by each. Discussion about the need for file management and standard ways of working to be followed. |
| 2<br>3 | Practical activities to develop skills in information presentation using word processing, publications and presentation software. Discussion of the features of each type of software and the needs met by these.                              |
| 4<br>5 | Practical activities to develop skills in organisation and analysis of numerical information using spreadsheet software. Discussion of the features of this type of software and the needs met by these.                                       |

|          |  |
|----------|--|
| 6<br>7   | Practical activities to develop skills in organisation and analysis of structured information using database software. Discussion of the features of this type of software and the needs met by these. |
| 8<br>9   | Practical activities to develop skills in organisation and presentation of information using multimedia software. Discussion of the features of this type of software and the needs met by these.      |
| 10       | Practical activities to develop skills in communication, searching and selection of information using the Internet.  |
| 11       | Visit a local business and/or use case study materials and videos to explore how and why different applications can be used in different organisations.  |
| 12<br>13 | Collect and study a range of business documents for different purposes. Candidates use what they have learnt to create their own documents.  |

### Term 2: Teaching Module B

|                   |  |
|-------------------|--|
| 1<br>2<br>3<br>4  | <p>Visit different local businesses and/or use case study material, videos and simulations to find out:</p> <ul style="list-style-type: none"> <li>• why and how organisations use ICT;</li> <li>• the components used in these ICT systems;</li> <li>• the contribution of these components to the purpose of the overall systems;</li> <li>• the information requirements of the systems;</li> <li>• how large organisations are organised into departments;</li> <li>• how these departments communicate;</li> <li>• how they use ICT to communicate and function effectively.</li> </ul> |
| 5                 | Use the Internet to investigate the main hardware components of systems to find out their purpose and characteristics. Practise matching applications software to particular processing needs, including those requiring integration of features of more than one application.   |
| 6                 | Analyse ICT systems and help candidates to create simple dataflow diagrams.  |
| 7<br>8<br>9<br>10 | Provide step by step guidance through the design and implementation of a sample ICT system.  |

### Term 3: Assessment Unit 2

|             |   |
|-------------|---|
| 1           | Provide guidance on the production of portfolio evidence. Revisit work on organisations from beginning of Term 2. Select organisations to be investigated. Arrange visits, visiting speakers or case study material and the collection of business documents. |
| 2<br>3<br>4 | Candidates investigate <b>two</b> different organisations and produce report.   |



|                                    |   |
|------------------------------------|---|
| <b>5</b><br><b>6</b>               | Revisit work on documents from end of Term 1. Candidates produce a report on business documents collected and produce their own business documents.     |
| <b>7</b>                           | Negotiate suitable systems for candidates to develop. Revisit work on dataflow diagrams. Candidates produce a dataflow diagram for the system.          |
| <b>8</b>                           | Revisit work on design and implementation of an ICT system. Candidates produce design specifications for their systems.                                 |
| <b>9</b><br><b>10</b><br><b>11</b> | Candidates implement and test their systems and produce records of this.  |
| <b>12</b>                          | Candidates produce user guides to their systems.  |
| <b>11</b>                          | Visit a local business and/or use case study materials and videos to explore how and why different applications can be used in different organisations. |
| <b>12</b><br><b>13</b>             | Collect and study a range of business documents for different purposes. Candidates use what they have learnt to create their own documents.             |

#### Term 4: Teaching Module C

|                                  |  |
|----------------------------------|--|
| <b>1</b><br><b>2</b>             | Use the Internet and other resources to find out about available technologies and the development of specialised hardware and software associated with them.   |
| <b>3</b><br><b>4</b>             | Use work on organisations from Year 1, case study material, visiting speakers, interviews and/or visits to find out how increased availability of ICT has affected the way all sectors of the economy do business and how ICT has affected work styles.  |
| <b>5</b>                         | Discuss the harmful effects of ICT and the legislation that covers working with ICT. Use articles from newspaper archives on CD-ROM or the Internet and materials available from organisations such as the Data Protection Registrar.  |
| <b>6</b><br><b>7</b><br><b>8</b> | Use candidates' own experience, interviews with parents and other adults, the Internet, magazines, sales brochures and other resources to find out how ICT has affected personal communication. Carry out a practice survey on people's use of the Internet or mobile phones, for example, and use database and spreadsheet software to analyse the results. |
| <b>9</b><br><b>10</b>            | Visit a local cyber café or public library with public Internet access to find out who uses them and how they are used. Access Internet sites providing information services and public transport and travel information to see what they provide. Investigate on-line discussion forums and the use of satellite positioning systems.                       |
| <b>11</b><br><b>12</b>           | Investigate the types of difficulties/disabilities people may have and how ICT can offer them improved access to society. If possible form links with a local special school or unit. Use visiting speakers from Social Services or other organisations that support people with special needs.  |
| <b>13</b>                        | Consider the effects on people who do not have access to ICT in each of the groups or contexts studied.  |

### Term 5: Assessment Unit 3

|   |  |
|---|--|
| <b>1</b>  | Reiterate guidance on portfolio production and presentation. Revisit work on survey and analysis of results using database and spreadsheet.  |
| <b>2</b><br><b>3</b><br><b>4</b>                          | Candidates carry out survey on an aspect of the impact of ICT developments on society and use database and spreadsheet software to analyse results and produce a report.   |
| <b>5</b>  | Revise skills in using multimedia software and searching and selecting information from the Internet. Teach candidates the importance of acknowledging the sources used and how this should be done. Remind candidates of the contexts their research and presentation should cover and the groups and individuals affected. |
| <b>6</b><br><b>7</b><br><b>8</b><br><b>9</b><br><b>10</b> | Candidates carry out research and produce a multimedia presentation as required.   |

### Term 6: Assessment Unit 1

|  |  |
|--|--|
| <b>1</b><br><b>2</b><br><b>3</b><br><b>4</b> | Complete any outstanding work for portfolio units.<br>Revise aspects of Teaching Modules A, B and C that could be included in the external test. |
|--|--|

### 3.3.3 A Possible Two Year Scheme of Work – Model Two:

This model assumes the same time allowance as model one, but with **two** members of staff teaching the course.

#### Term 1

|  | <b>Topic</b>  |  |
|--|---|--|
| <b>Week</b>                                  | <b>Teacher 1: Teaching Module A</b>   | <b>Teacher 2: Teaching Module A</b>  |
| <b>1</b>                                     | Introduction to course; discussion about the different types of application software available and suggestions as to the types of need met by each.   | Discussion about the need for file management and standard ways of working to be followed.   |
| <b>2</b><br><b>3</b><br><b>4</b><br><b>5</b> | Practical activities to develop skills in information presentation using word processing, publications and presentation software. Discussion of the features of each type of software and the needs met by these. | Practical activities to develop skills in organisation and analysis of numerical information using spreadsheet software. Discussion of the features of this type of software and the needs met by these. |

|                  |   |   |
|------------------|---|---|
| 6<br>7<br>8<br>9 | Practical activities to develop skills in organisation and analysis of structured information using database software. Discussion of the features of this type of software and the needs met by these.  | Practical activities to develop skills in organisation and presentation of information using multimedia software. Discussion of the features of this type of software and the needs met by these. |
| 10<br>11         | Practical activities to develop skills in communication, searching and selection of information using the Internet.   | Visit a local business and/or use case study materials and videos to explore how and why different applications can be used in different organisations.   |
| 12<br>13         | Collect and study a range of business documents for different purposes. Candidates use what they have learnt to create their own documents. (Each teacher to concentrate on different types of document, or one teacher to take the lead role.) |   |

## Term 2

| Topic            |   |   |
|------------------|---|---|
| Week             | Teacher 1: Teaching Module B/<br>Assessment Unit 2  | Teacher 2: Teaching Module C/<br>Assessment Unit 3  |
| 1<br>2<br>3<br>4 | Visit different local businesses and/or use case study material, videos and simulations to find out: <ul style="list-style-type: none"> <li>• why and how organisations use ICT;</li> <li>• the components used in these ICT systems;</li> <li>• the contribution of these components to the purpose of the overall systems;</li> </ul> | Use the Internet and other resources to find out about available technologies and the development of specialised hardware and software associated with them.  |
| 5<br>6<br>7<br>8 | <ul style="list-style-type: none"> <li>• the information requirements of the systems;</li> <li>• how large organisations are organised into departments;</li> <li>• how these departments communicate;</li> <li>• how they use ICT to communicate and function effectively.</li> </ul>  | Use work on organisations, case study material, visiting speakers, interviews and/or visits to find out how increased availability of ICT has affected the way all sectors of the economy do business and how ICT has affected work styles. |

|                 |  |   |
|-----------------|--|---|
| <b>9<br/>10</b> | Use the Internet to investigate the main hardware components of systems to find out their purpose and characteristics. Practise matching applications software to particular processing needs, including those requiring integration of features of more than one application. | Discuss the harmful effects of ICT and the legislation that covers working with ICT. Use articles from newspaper archives on CD-ROM or the Internet and materials available from organisations such as the Data Protection Registrar. |
|-----------------|--|---|

### Term 3

| Topic                         |   |  |
|-------------------------------|---|--|
| Week                          | Teacher 1: Teaching Module B/<br>Assessment Unit 2  | Teacher 2: Teaching Module C/<br>Assessment Unit 3   |
| <b>1<br/>2</b>                | Provide guidance on the production of portfolio evidence. Revisit work on organisations from beginning of Term 2. Select organisations to be investigated. Arrange visits, visiting speakers or case study material and the collection of business documents. | Use candidates' own experience, interviews with parents and other adults, the Internet, magazines, sales brochures and other resources to find out how ICT has affected personal communication. Carry out a practice survey on people's use of the Internet or mobile phones and use database and spreadsheet software to analyse the results. |
| <b>3<br/>4<br/>5<br/>6</b>    | Candidates investigate <b>two</b> different organisations and produce report.   |  |
| <b>7<br/>8</b>                |   |  |
| <b>9<br/>10<br/>11<br/>12</b> | Revisit work on documents from end of Term 1. Candidates produce a report on business documents collected and produce their own business documents.   | Candidates carry out survey on an aspect of the impact of ICT developments on society and use database and spreadsheet software to analyse results and produce a report.   |

### Term 4

| Topic                      |   |  |
|----------------------------|---|--|
| Week                       | Teacher 1: Teaching Module B/<br>Assessment Unit 2  | Teacher 2: Teaching Module C/<br>Assessment Unit 3   |
| <b>1<br/>2</b>             | Analyse ICT systems and help candidates to create simple dataflow diagrams.                 | Visit a local cyber café or public library with public Internet access to find out who uses them and how they are used. Access Internet sites providing information services and public transport and travel information to see what they provide. Investigate on-line discussion forums and the use of satellite positioning systems. |
| <b>3<br/>4<br/>5<br/>6</b> | Provide step by step guidance through the design and implementation of a sample ICT system. |  |
| <b>36</b>                  | GCSE in Applied ICT (Double Award) Teacher Guide<br>Delivering the Specification            |  |

|                   |  |   |
|-------------------|--|---|
| 7<br>8<br>9<br>10 |  | Investigate the types of difficulties/disabilities people may have and how ICT can offer them improved access to society. If possible form links with a local special school or unit. Use visiting speakers from Social Services or other organisations that support people with special needs. |
| 11<br>12          | Negotiate suitable systems for candidates to develop. Revisit work on dataflow diagrams. Candidates produce a dataflow diagram for the system. | Consider the effects on people who do not have access to ICT in each of the groups or contexts studied.   |
| 13                | Start to consider design of system.  | Teach candidates the importance of acknowledging sources used and how this should be done.  |

#### Term 5

|                            |  | Topic   |  |
|----------------------------|--|---|--|
| Week                       | Teacher 1: Teaching Module B/<br>Assessment Unit 2                       | Teacher 2: Teaching Module C/<br>Assessment Unit 3  |  |
| 1<br>2                     | Candidates produce design specifications for their systems.              | Revise skills in using multimedia software and searching and selecting information from the Internet. Remind candidates of the contexts their research and presentation should cover and the groups and individuals affected. |  |
| 3<br>4<br>5<br>6<br>7<br>8 | Candidates implement and test their systems and produce records of this. | Candidates carry out research and produce a multimedia presentation as required.  |  |
| 9<br>10                    | Candidates produce user guides to their systems.                         |   |  |

#### Term 6

|                  |  |
|------------------|--|
| 1<br>2<br>3<br>4 | Complete any outstanding work for portfolio units.<br>Revise aspects of Teaching Modules A, B and C that could be included in the external test. |
|------------------|--|

### 3.4 DELIVERING THE SPECIFICATION OVER ONE YEAR

Delivering the specification over one year is only possible where a minimum of nine one hour lessons are timetabled each week. This assumes approximately 25 weeks are available as for the second year of a two year course. Assuming two members of staff are delivering the course, the following is a possible model.

#### 3.4.1 A Possible One Year Programme of Delivery:

| Term | Delivery  | Assessment   |
|------|---|--|
| 1    | First half: Teach Module A: <i>ICT tools and applications</i> .<br>Second half: Teach Module B: <i>ICT in organisations</i> ; in parallel with Module C: <i>ICT and society</i> . |  |
| 2    | Work on Unit 2 portfolio;<br>Work on Unit 3 portfolio   |  |
| 3    | Complete Unit 2 portfolio;<br>Complete Unit 3 portfolio;<br>Prepare for Unit 1 examination.   | Unit 1 test;<br>Unit 2 portfolio;<br>Unit 3 portfolio. |

#### 3.3.2 A Possible One Year Scheme of Work:

##### Term 1 (first half)

| Week   | Topic  |  |
|--------|--|--|
|        | Teacher 1: Teaching Module A   | Teacher 2: Teaching Module A   |
| 1<br>2 | Introduction to course, discussion about the different types of application software available and suggestions as to the types of need met by each.<br><br>Practical activities to develop skills in information presentation using word processing, publications and presentation software. Discussion of the features of each type of software and the needs met by these. | Discussion about the need for file management and standard ways of working to be followed.<br><br>Practical activities to develop skills in organisation and analysis of numerical information using spreadsheet software. Discussion of the features of this type of software and the needs met by these. |
| 3      | Practical activities to develop skills in organisation and analysis of structured information using database software. Discussion of the features of this type of software and the needs met by these.   | Practical activities to develop skills in organisation and presentation of information using multimedia software. Discussion of the features of this type of software and the needs met by these.  |

|          |   |   |
|----------|---|---|
| <b>4</b> | Practical activities to develop skills in communication, searching and selection of information using the Internet.   | Visit a local business and/or use case study materials and videos to explore how and why different applications can be used in different organisations. |
| <b>5</b> | Collect and study a range of business documents for different purposes. Candidates use what they have learnt to create their own documents. (Each teacher to concentrate on different types of document, or one teacher to take the lead role.) |   |

### Term 1 (second half)

| <b>Topic</b> |  |  |
|--------------|--|--|
| <b>Week</b>  | <b>Teacher 1: Teaching Module B</b>  | <b>Teacher 2: Teaching Module C</b>  |
| <b>6</b>     | Visit different local businesses and/or use case study material, videos and simulations to find out: <ul style="list-style-type: none"> <li>• why and how organisations use ICT;</li> </ul>  | Use the Internet and other resources to find out about available technologies and the development of specialised hardware and software associated with them.   |
| <b>7</b>     | <ul style="list-style-type: none"> <li>• the components used in these ICT systems;</li> <li>• the contribution of these components to the purpose of the overall systems;</li> <li>• the information requirements of the systems;</li> </ul>                                   | Use work on organisations, case study material, visiting speakers, interviews and/or visits to find out how increased availability of ICT has affected the way all sectors of the economy do business and how ICT has affected work styles.  |
| <b>8</b>     | <ul style="list-style-type: none"> <li>• how large organisations are organised into departments;</li> <li>• how these departments communicate;</li> <li>• how they use ICT to communicate and function effectively.</li> </ul>   | Discuss the harmful effects of ICT and the legislation that covers working with ICT. Use articles from newspaper archives on CD-ROM or the Internet and materials available from organisations such as the Data Protection Registrar.  |
| <b>9</b>     | Use the Internet to investigate the main hardware components of systems to find out their purpose and characteristics. Practise matching applications software to particular processing needs, including those requiring integration of features of more than one application. | Use candidates' own experience, interviews with parents and other adults, the Internet, magazines, sales brochures and other resources to find out how ICT has affected personal communication. Carry out a practice survey on people's use of the Internet or mobile phones and use database and spreadsheet software to analyse the results. |

|                        |   |  |
|------------------------|---|--|
| <b>10</b>              | Analyse ICT systems and help candidates to create simple dataflow diagrams.                 | Visit a local cyber café or public library with public Internet access to find out who uses them and how they are used. Access Internet sites providing information services and public transport and travel information to see what they provide. Investigate on-line discussion forums and the use of satellite positioning systems. |
| <b>11</b><br><b>12</b> | Provide step-by-step guidance through the design and implementation of a sample ICT system. | Investigate the types of difficulties/disabilities people may have and how ICT can offer them improved access to society. If possible form links with a local special school or unit. Use visiting speakers from Social Services or other organisations that support people with special needs.  |
| <b>13</b>              |   | Consider the effects on people who do not have access to ICT in each of the groups or contexts studied.  |

## Term 2

| Topic                |   |  |
|----------------------|---|--|
| Week                 | Teacher 1: Assessment Unit 2  | Teacher 2: Assessment Unit 3   |
| <b>1</b>             | Provide guidance on the production of portfolio evidence. Revisit work on organisations from beginning of Term 2. Select organisations to be investigated. Arrange visits, visiting speakers or case study material and the collection of business documents. | Reiterate guidance on portfolio production and presentation. Revisit work on survey and analysis of results using database and spreadsheet.  |
| <b>2</b><br><b>3</b> | Candidates investigate <b>two</b> different organisations and produce report.   | Candidates carry out survey on an aspect of the impact of ICT developments on society and use database and spreadsheet software to analyse results and produce a report.   |
| <b>4</b>             |   |  |
| <b>5</b>             | Revisit work on documents from Term 1. Candidates produce a report on business documents collected and produce their own business documents.  | Revise skills in using multimedia software and searching and selecting information from the Internet. Teach candidates the importance of acknowledging the sources used and how this should be done. Remind candidates of the contexts their research and presentation should cover and the groups and individuals affected. |



|                       |  |  |
|-----------------------|--|--|
| <b>6</b>              | Negotiate suitable systems for candidates to develop. Revisit work on dataflow diagrams. Candidates produce a dataflow diagram for the system. | Candidates carry out research and produce a multimedia presentation as required. |
| <b>7</b>              | Revisit work on design and implementation of an ICT system. Candidates produce design specifications for their systems.                        |  |
| <b>8<br/>9<br/>10</b> | Candidates implement and test their systems and produce records of this and produce user guides to their systems.                              |  |

### Term 3

|                            |  |
|----------------------------|--|
| <b>1<br/>2<br/>3<br/>4</b> | Complete any outstanding work for portfolio units.<br>Revise aspects of Teaching Modules A, B and C that could be included in the external test. |
|----------------------------|--|

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## 4 Externally Assessed Assessment Unit 1: ICT Knowledge and Understanding

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### 4.1 SCOPE OF THE TEST

Each of the **three** teaching modules described in the specification include topics that are printed in italics. These are the topics that will be tested in Assessment Unit 1: *ICT knowledge and understanding*. These topics should be taught alongside the other topics in the modules as they form an integral part of each. For example, candidates will need to learn about the different departments in organisations (tested) before they can understand how these departments use ICT to communicate and function effectively (portfolio).

Candidates should be ready to take the test in either January or June of the second year of the course. By then they will have been taught all three modules. Candidates will, however, need time to revise the tested topics prior to sitting the test. Sitting the test in January will allow them to re-sit in the summer but they may not have time to complete all three modules and carry out the necessary revision.

The main areas to be tested are:

- facilities available in applications software and their use including:
  - presentation of information using word processing, publications and presentation software;
  - organisation and analysis of numerical information using spreadsheet software;
  - organisation and analysis of structured information using database software;
  - organisation and presentation of information using multimedia software;
- use of specific applications by organisations including those for:
  - the capture, manipulation and enhancement of graphic images;
  - automation and process control including CAD/CAM;
  - monitoring and recording physical and environmental data for analysis and interpretation;
- identification of the type of application appropriate for a particular purpose and the tools and facilities that make it appropriate;
- file management and standard ways of working including:
  - security of information;
  - confidentiality;
  - copyright;
  - saving regularly with different filenames;
  - keeping backups;
  - managing work files;
  - working safely;
  - relevant legislation;

- identification of components in ICT systems and their contribution to the overall purpose of the system;
- identification and characteristics of hardware devices including:
  - input devices;
  - processors;
  - output devices;
  - ports and cables;
  - storage devices;
  - additional devices to connect to a network or the Internet;
  - network protocols and services;
- available technologies and the specialised hardware and software associated with them including:
  - internet technologies;
  - internet connections;
  - mobile phone technologies;
  - digital broadcasting;
  - personal digital assistants (PDAs) and organisers;
  - storage media;
  - touch screen technologies;
- the four main functions of business, i.e.
  - sales;
  - purchasing;
  - finance;
  - operations;
- legislation that covers working with ICT (precise detail is not required but candidates must understand why they were introduced, who is affected by the legislation, what protection it offers and what aspect of using ICT is affected) including:
  - Data Protection Act (1998);
  - Computer Misuse Act (1990);
  - Copyright, Designs and Patents Act (1989);
  - Health and Safety at Work Act (1974);
  - Health and Safety Regulations (1992);
  - Regulation of Investigatory Powers Act (2000);
- problems caused by increased ICT use including:
  - international fraud;
  - misuse of personal information;
  - intrusion such as spam, chat rooms, viruses.

The questions on the test paper will require candidates to apply their knowledge and understanding to given situations and contexts. Therefore, they will, need to prepare in advance by practising this application to a range of situations and contexts.

## 4.2 THE LANGUAGE OF TESTING

### 4.2.1 Types of Questions and Answers

Candidates should be encouraged to attempt all questions. Marks are not taken off for incorrect answers and, particularly when they are asked to select from a list of options, they may well select the correct answer. They must not, however, select more than the number of answers required. The example below does not ask for a specific number of answers, but the number of marks available [9] tells the candidate that nine ticks should be used.

#### Example

- 5 (c) Most computers include a number of auxiliary devices.

In the table below tick the box or boxes that give the *best* description of each of the devices listed.

|   | Floppy Disk | Zip Disk | CD-ROM | Dot matrix Printer | Hard Disk |
|---|-------------|----------|--------|--------------------|-----------|
| Cheapest storage device                   |             |          |        |                    |           |
| Not portable                              |             |          |        |                    |           |
| Can be written to only once               |             |          |        |                    |           |
| Holds a large amount of data              |             |          |        |                    |           |
| Will print on multi-part stationery       |             |          |        |                    |           |
| Retrieves data fast                       |             |          |        |                    |           |
| Is like a floppy disk but holds more data |             |          |        |                    |           |

[9]

Mark schemes contain a list of answers that are to be given full credit. The writers of the questions on the question papers have to follow the rules provided by the specification but candidates' answers do not.

### Example

2 The company is very worried about the security of its data. The consultant has told the company that data loss concerns can be classified under **three** headings:

- physical threat;
- viruses;
- data loss.

(a) State **four** physical threats to the security of a company's data.

(i) \_\_\_\_\_ [1]

(ii) \_\_\_\_\_ [1]

(iii) \_\_\_\_\_ [1]

(iv) \_\_\_\_\_ [1]

|             |   |            |    |
|-------------|---|------------|----|
| <b>2(a)</b> | <i>1 mark for each relevant answer.<br/>Example answers:<br/>Theft of computer or system or peripherals;<br/>a fire or flood; major changes<br/>in humidity or temperature; magnetic storms</i> | <b>4x1</b> | 4B |
|-------------|---|------------|----|

The mark scheme has a list of acceptable answers. However, the candidate writes down 'The computer might be stolen'. The answer given by the candidate is just as correct as those listed as acceptable answers and so the answer is correct and would be given the credit.

Sometimes the number of answers required is given to the candidate in the question, as in the example above. The candidate should only give the number of answers asked for. The number of answers required is highlighted in bold.

If the candidate states *less* than four threats, then the marks for the remaining threats will not be available. If the candidate gives *more* than four threats then time has been wasted since the candidate cannot gain more than four marks for the question. Only the *first* four answers will be considered.

In some questions the candidate is asked for a longer answer. The candidate should look at the mark required by the question and try to make at least that number of different points when answering the question.

## 4.2.2 Using Source Material

The candidate may have to use a scenario created by the question in order to provide an answer.

### Example

5 The hair dryer company uses information communication technology to:

- produce catalogues of their hair dryers;
- control stock;
- calculate all financial data;
- design new products.

The company's computer systems consist of screens, computers and keyboards.

(a) List **one** other piece of equipment needed for **each** of the functions listed.

- (i) To produce catalogues: \_\_\_\_\_ [1]
- (ii) To control stock: \_\_\_\_\_ [1]
- (iii) To calculate financial data: \_\_\_\_\_ [1]
- (iv) To design products: \_\_\_\_\_ [1]

There might be a number of questions related to this scenario. The scenario may reflect a real situation or it may not. Even if the candidate has never come across the given scenario it should be used since this is a statement of how things are done at the present. Each question should be answered within the context of the scenario. General answers should not be given. In the above case all answers should be related to the hair dryer company.

## 4.2.3 Expressing an Opinion

Questions targeted at higher grades, where a large number of marks are available, expect the candidate to express and justify an opinion.

These are more open-ended questions and candidates need to think carefully about how to structure their answers to obtain all the marks available.

The use of examples and fully reasoned responses considering all aspects of the question asked is often essential if candidates are to convince the examiner that they understand the topic.

At no time will a question be asked such as 'What do you think...'. This is because the answer must always be correct since it is the candidate's opinion!



### 4.3 HINTS FOR CANDIDATES

#### OCR Applied ICT Advice to Candidates

##### The most important words in a question (the key words)

The key word in a question tells you how you must answer it. These key words are:

- list
- state
- give
- draw
- describe
- explain
- discuss
- justify

**List** – you must give a list of items.

Example

A company decides to use a database of existing customers so that they can write to them individually when new products are released.

List **five** items of information that the company would want to include on the database. You should write **one** answer on each of the lines provided. The answers will be quite short.

Answer

e.g. an account number  
customer's name  
customers address  
previous purchases  
when purchased

**State** – you must give a short statement (this may be one word).

Example

State **four** types of jobs that can become available as a result of the introduction of ICT systems.

You should write **one** answer on each of the lines provided.

Answer

e.g. Software designers  
Hardware engineers  
Service engineers  
Website designers



**Give** – your answer must give more information than a single word statement.

Example

Give **three** benefits to the hair dryer purchaser (customer) of the change from a paper-based to a CD-ROM based catalogue.

You should write **one** answer on each of the lines provided.

Answer

e.g. It does not take up much room.

It is easier to search through.

It can be intuitive.

**Draw** – as this suggests, you must draw a diagram.

**Describe** – this requires more than *Give*.

Example

Describe **three** main benefits to the manufacturer and the customer of introducing an on-line catalogue rather than a CD-ROM based catalogue.

Answer

e.g. The customer can order goods quickly on line without leaving home.

The manufacturer can update the catalogue regularly if products change.

The catalogue can show the customer exactly what goods are available and which ones are out of stock.

**Explain** – you must say *why* something is true.

Example

Briefly explain what each security measure involves.

(i) the use of passwords:

Answer

e.g. Passwords can be used to protect data against damage or theft. You can restrict users to a certain level of access by issuing them with an ID and password.

**Discuss** – this is like *explain*, but you should include a conclusion at the end. You will probably need to include explanations of *both* sides of an argument.

**Justify** – for this type of question you should explain *why* you chose the answer you did *and* the reasons for your choice.

## OCR Applied ICT Advice to Candidates

### WHAT TO DO and WHAT NOT TO DO when answering examination questions

There are a number of points which you should bear in mind when answering the examination questions.

- **Do** give the number of answers asked for, not more.
- **Don't** make the same point over and over again.
- **Don't** write a long list of answers and hope that one of them is correct. Often only your first answer will be marked.
- **Don't** waffle.
- **Don't** make a disadvantage the opposite of an advantage when a question asks for both. Choose a different example.
- **Do** ring only the number asked for when a question asks you to ring the correct answers. Ringing too many will only lose marks.
- **Do** ring *something* if you don't know the answer to a 'ring the correct answer' question. You might be correct. Marks are not deducted for wrong answers.
- **Don't** leave out a question.
- **Do** make sure you have answered all the questions. Go through the answer book to make sure every page has been answered.
- **Don't** give general answers that could apply to anything if a question relates to a specific topic.
- **Don't** write more than can be written on the lines provided. Use the number of lines as a guide to how much is expected.
- **Don't** repeat what was provided in the question.
- **Don't** rewrite the question as the answer.
- **Don't** write about something if the question excludes it from the answer.
- **Don't** use trade names in your answer. Talk about a 'word processor' and not the specific product.
- **Do** answer the question that is given. **Don't** give an answer that is **not** asked for just because you know it.

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## 5 Portfolio Unit 2: Business Systems Portfolio

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### 5.1 PORTFOLIO EVIDENCE REQUIRED

Candidates need to produce a report of an investigation of **two** different organisations' use of ICT together with original documents for different business purposes and an ICT system for a given situation for **one** of the organisations. This must include coverage of:

**a**      **how and why the organisations use ICT, the hardware and applications software used and how these meet the organisations' needs**

Candidates need to identify how the organisations use ICT, the information requirements of some systems and the hardware and application software used (**a1**). Candidates could describe how the organisations use ICT, the information requirements of most major systems and the hardware and application software used (**a2**). Candidates could also explain why the organisations use ICT and how the hardware and application software used meet the organisations' needs and help them to communicate and function effectively (**a3**).

**b**      **the documents used by the organisations to communicate internally between individuals and departments and externally with customers and suppliers**

Candidates need to describe the content and layout of documents used by the organisations (**b1**). Candidates could make informed suggestions about the writing and presentation styles used by the organisations in their documents (**b2**). Candidates could also draw logical conclusions about the standards for business documents and use these when producing their own documents (**b3**).

**c**      **the use of word processing, publications and presentation software to produce original documents for different business purposes**

Candidates need to produce straightforward business documents that match their purpose and the target audience by making basic use of word processing, publication and presentation software (**c1**). Candidates could produce more complex business documents that use appropriate writing, presentation and layout styles by making use of more features of word processing, publication and presentation software (**c2**). Candidates could also use what they have learned from studying organisations' documents, and the full range of software facilities, to produce business documents that meet their intended purpose, are appropriate for the target audience and that are accurate, clear and consistent (**c3**).

**d the use of a dataflow diagram to represent the flow of information in a given system**

Candidates need to, with help, identify the information flows in a simple system and produce a dataflow diagram (**d1**). Candidates could investigate the information flows in a system and produce a dataflow diagram (**d2**). Candidates could also analyse the information flows in a system and produce a comprehensive dataflow diagram (**d3**).

**e the design of the ICT system**

Candidates need to produce a basic (**e1**), a detailed (**e2**) or a comprehensive (**e3**) design specification for a system.

**f the implementation of the ICT system**

Candidates need to produce brief records (**f1**), clear records (**f2**), or comprehensive records (**f3**) of the implementation of the system.

**g testing and evaluation of the ICT system**

Candidates need to carry out simple tests to check that the system meets the design specification (**g1**). Candidates could test the system under a range of conditions to ensure that user requirements are met (**g2**). Candidates could also carry out a detailed evaluation of the system, which checks the outcomes against user requirements, and produce records of any modifications and improvements made (**g3**).

**h user documentation for the ICT system**

Candidates need to produce a basic user guide (**h1**), a detailed user guide (**h2**) or a comprehensive user guide (that would allow a novice user to use the system efficiently) (**h3**) to the system.

## **5.2 BACKGROUND**

In Teaching Module A: *ICT tools and applications*, candidates gained practical experience of using different types of software and matching their features with particular needs. They also started to consider how organisations use ICT. Teaching Module B: *ICT in organisations* extended candidates' study of organisations' use of ICT, linking this to how organisations are structured. The module culminated in candidates learning how to develop an ICT system to meet a specific business need.

This assessment unit can be broken down into a number of separate assignments, although all sections of the portfolio should relate to **two** specific organisations. The maximum number of marks available for each section will provide guidance on the time to allow for each assignment and the extent of the evidence required.

The first section requires candidates to apply what they have learnt in Teaching Module B, about how organisations use ICT, to the study of the **two** specific organisations. Ideally, the organisations chosen should be as different as possible. A large organisation such as the local branch of a national supermarket chain that makes extensive use of ICT and a small shop or other local business that makes very limited use of ICT would be ideal. If possible, these should be different organisations from those considered while studying Teaching Modules A and B. Clearly, the study will be best carried out by candidates visiting the organisations concerned to observe the systems used and question staff using them. An alternative might be for representatives of the organisation to visit the Centre to talk to the candidates and answer their questions. In either case, candidates will need to prepare questions in advance to ensure they obtain the information they need. If neither of these options is possible, teachers will need to provide candidates with suitable case study material. Care will be needed to ensure that candidates are not able to simply reproduce this material to create their report. Hence, video and photographic as well as textual material should be provided if possible. To add realism and vocational relevance to this material, a suitable adult could be used to role-play a representative of the organisation, discuss problems with the systems used and answer candidates' questions. This section of the portfolio can be awarded a maximum of 8 marks out of 50.

Candidates then need to collect, or be provided with, documents used by the **two** organisations. These should be complete documents and not simply blank templates. Many organisations produce documents that are in the public domain, such as promotional letters, advertisements, newsletters, company reports and brochures. These can be used without breaching confidentiality. Alternatively, they may use documents that have been received from the organisations providing references that allow the receiver to be identified have been obliterated. Where case study material has been used, teachers will need to provide appropriate documents to match the organisations described. Candidates aiming for higher grades will need to consider documents from other organisations as well. This section of the portfolio can be awarded a maximum of 6 marks out of 50.

Having commented on the organisations' documents, candidates need to create their own. This may include redesigning existing documents used by **one** of the organisations to improve them, creating additional documents for **one** of the organisations or producing documents for other purposes. As a minimum, candidates will need to produce a letter, memo or similar document using word processing software, a poster or newsletter using publishing software and some slides, e.g. for a marketing promotion, using presentation software. This section of the portfolio can be awarded a maximum of 9 marks out of 50.

The remainder of the portfolio requires candidates to design, implement, test and document a system to meet a given need for **one** of the organisations. This has to be a realistic problem that requires a system solution. Where one organisation makes only limited use of ICT, this should provide ample opportunities for candidates to solve real problems and produce vocationally relevant solutions. This may involve creating an ICT system to replace a manual system or recreating an existing ICT system to improve it. The *Guidance for Teachers* section of the specification provides examples of the type of system candidates could develop. Candidates working at grades GG to EE will develop systems requiring the use of one type of software, while those aiming for higher grades will need to integrate more than one software package. For example, they may use results from a database query as input to a mail-merged letter.

The first step is to investigate the information flows in the system and draw a dataflow diagram to represent these. Weaker candidates may need considerable help to do this. It is not expected that candidates produce formal dataflow diagrams using standard symbols, but rather that they recognise the information flows that take place in relation to the system they will develop. This section of the portfolio can be awarded a maximum of 6 marks out of 50.

The next stage is for candidates to produce a design specification for the system. This will need to include the user requirements, sources of information, the input, processing and output required, the hardware and applications software needed and, for more able candidates, detailed specifications for testing the system. This section of the portfolio can be awarded a maximum of 4 marks out of 50.

Having designed the system, candidates must implement and test it. Candidates will need to keep records of what they do and examples of input data and the outputs obtained. Screen prints should also be used to evidence the system developed. Candidates working at the highest grades will need to produce comprehensive records of both the implementation and testing of their system as well as records of any modifications or improvements made as a result of testing. Each of these sections of the portfolio can be awarded a maximum of 6 marks out of 50.

The final section of the portfolio evidence requires candidates to produce a user guide for the system they have developed. This will range from a simple list of instructions to a comprehensive guide which uses non-technical language and techniques such as annotated screen prints. This section of the portfolio can be awarded a maximum of 5 marks out of 50.

### **5.3 SAMPLE ASSIGNMENTS**

The **four** assignments on the following pages together will enable candidates to produce all the evidence required for this unit's portfolio. They may be photocopied and given to candidates.

The basic assignments are aimed at candidates working at GG to EE level but they include details of what candidates must do to meet higher grades, either as an extension or as additional tasks.

The assignments are purposely generic in nature so that they will fit a range of circumstances. Teachers may wish to adapt the assignments to more closely fit their own circumstances.

### 5.3.1 Sample Assignment 1: Finding Out About How Organisations Use ICT

For this assignment you must produce a report on how **two** different organisations use ICT to help them carry out their business. You should look at row **a** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

Your teacher will explain how you will carry out this investigation. You might be taken to visit the organisations, someone from the organisations might come to talk to you, or your teacher might give you case studies and videos to study.

#### Task 1

Working in a group, use what you learnt about organisations in Module B to write a list of questions you need to ask. You will need to find out:

- what ICT is used for;
- the information needed for each system;
- the hardware used;
- the application software used.

Decide who will find out the answers for each topic.

#### Task 2

Carry out your research to answer the questions you have been given for **both** organisations. Remember to keep careful notes so that you can share your findings with the other members of your group.

#### Task 3

Present your findings to the other members of your group. Make sure you get all the information you need from the other group members about the topics they have researched.

#### Task4

Working on your own, use the information you have collected to write your report. Remember, for **each** organisation, you need to identify or describe:

- how the organisation uses ICT;
- the information needed for each ICT system;
- the hardware used;
- the application software used.

If you want to achieve the highest grades you must also explain why the organisations use ICT and how the hardware and application software used meet the organisations' needs and help them communicate and function effectively.



### 5.3.2 Sample Assignment 2: Describing Documents

For this assignment you must describe and comment on the documents used by the **two** organisations you studied in Sample Assignment 1. You should look at row **b** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

#### Task 1

Working in a group, collect as many different documents as you can from the **two** organisations. (Your teacher may provide these for you.) You might collect letters, memos, invoices, posters, newsletters, etc. Try to collect similar documents from **both** organisations.

If you are working towards the highest grades you should collect documents from other organisations as well.

#### Task 2

In your group, discuss the layout and content of each of the documents. Think about:

- what are the important parts of the document?
- what features are always included in similar documents?
- how is the document laid out – in columns, in paragraphs?
- what other features does it include – bullets, tables, indents, numbered lists?
- does it use colour?
- does it include pictures?

You might also think about:

- what is the purpose of the document?
- who is the intended reader of the document?
- is the document suitable for the intended reader?
- does it meet its purpose?

### Task 3

Working on your own, write a description of **each** of the documents. You should use what you discussed in your group and the bulleted list in Task 2 to help you. You must describe at least **two** documents from **each** of the organisations – **four** in all. You must also include a copy of **each** of the documents.

To achieve a higher grade you should write about documents from more than **two** organisations and identify the purpose and the intended reader of **each** document and state whether the document meets its purpose or not. To achieve the highest grades you should draw general conclusions about the standards expected in business documents.

### 5.3.3 Sample Assignment 3: Creating Documents

In this assignment you will use word processing, desktop publishing and presentation software to create documents. You should look at row **c** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

#### Task 1

Working in a group:

- think of an imaginary company that you could set up to sell a product or service; for example, your company might be selling toys, games consoles, computer systems or mobile phones, or it might be opening a new fitness or leisure centre;
- decide on a name and image for the company – perhaps design a logo;
- collect information about the types of products or services that it will sell;
- discuss who the customers of your company might be;
- discuss the type of documents the company would need to produce;
- think of some questions that could be asked in a market research survey and make up some results for the survey.

#### Task 2

Working on your own, use word processing software to create a letter to a customer telling them about a new product or service. Use what you learnt about documents in Sample Assignment 2 to help you lay out your letter.

Make sure your letter is suitable for the intended reader and meets its purpose.

Check your work carefully and correct any errors. Make sure your teacher sees you do this.

Print a copy of your letter.

Include an observation record from your teacher with your work.

If you are working towards the highest grades you should produce a form letter and mail merge it with a list of customers to produce a mail shot. You should also develop and use a house style for all your documents.

### **Task 3 – for grades DD and above**

Working on your own, use word processing software to create a report of at least **two** pages for the company directors on the results of a market research survey. Your report should include:

- headers/footers, including page numbers;
- bullets or numbered lists;
- tables;
- charts or graphs.

Print a copy of your draft report and annotate it to show changes you could make to the layout to improve it. Also, proof read the report and annotate any errors you find.

Make the changes to your report and correct any errors you found.

Print a final copy of your report.

### **Task 4**

Working on your own, use desktop publishing software to create a flyer to advertise the new product or service. Your flyer must include a suitable picture as well as some text.

Make sure you include all the necessary information such as the name of the product, when it will be available, any special features and the price.

Check your flyer carefully and correct any errors.

Print a copy of your flyer.

### **Task 5 – for grades DD and above**

Working on your own, use desktop publishing software to create a **two**-page newsletter for your company staff. You can include any articles you feel are appropriate but you must include pictures as well as text.

Print a copy of your draft newsletter and annotate it to show changes you could make to the layout to improve it. Also, proof read the newsletter and annotate any errors you find.

Make the changes to your newsletter and correct any errors you found.

Print a final copy of your newsletter.

## Task 6

Working on your own, use presentation software to create a presentation of at least **three** slides to sell your company's products or services to customers. You should include suitable pictures and text so that the presentation meets its purpose.

If you are working towards higher grades you should create a more complex presentation that makes use of the range of features available in the software.

Check your work carefully. Print out your slides – you can print out 3 or 6 slides to a page providing the text is readable.

### 5.3.4 Sample Assignment 4: Designing and Implementing a System

In this assignment you will:

- investigate the information flows for a system for a company and draw a dataflow diagram to represent it;
- produce a design specification for the system;
- implement the system and document what you do;
- test the system and produce evidence of testing;
- produce a user guide for the system.

You should look at rows **d**, **e**, **f**, **g** and **h** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

#### Task 1

Discuss with your teacher a suitable system that you can develop for **one** of the companies you investigated in Sample Assignment 1. This may be a manual system that you can computerise or an existing computer system that you can improve.

Investigate how information flows in the system. You will need to find out:

- who sends information;
- who receives information;
- what information is passed;
- how it is passed;
- what information is stored;
- how and where it is stored.

Your teacher will help you with this if necessary.

Draw a dataflow diagram to show these information flows.

## **Task 2**

Produce a design specification for the system you will develop. You must include:

- the user requirements;
- information sources;
- the input, processing and output required;
- the hardware needed;
- the type(s) of applications software needed.

If you are working towards higher grades you should also include details of the tests you will carry out to check the system works. For the highest grades you should include a detailed test specification.

## **Task 3**

Set up the system you have designed.

You must keep a diary or other records of what you do. You must also take screen prints to show what you do. You must include in your records the input data you use and printouts of any output you obtain.

If you are working towards higher grades, you must describe clearly what you do to set up the system. If you are working towards the highest grades, your records should be sufficiently detailed for someone else to recreate your system.

## **Task 4**

Test your system to check that it works.

Keep records of the tests you carry out. This should include the data you input and printouts of the output produced.

If you are working towards a higher grade, you must test normal, abnormal and extreme data inputs. If you are working towards the highest grades you must thoroughly test your system according to the test specification you produced in Task 2. You must also record any modifications or improvements you make to your system as a result of testing.

## Task 5

Produce a user guide to allow someone else to use your system. You must include instructions on how to:

- open the software;
- input data;
- obtain output;
- print the output;
- save data and exit the software.

If you are working towards higher grades, your user guide should include screen prints of menus, input screens and examples of output expected. If you are working towards the highest grades, your user guide must be written in non-technical language so that is suitable for a novice user. You should also use a range of techniques to provide instructions, including annotated screen prints.



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## 6 Portfolio Unit 3: ICT Survey

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### 6.1 PORTFOLIO EVIDENCE REQUIRED

Candidates need to produce a survey report and a presentation describing the technologies available to access and exchange information and carry out transactions and detailing the impact of ICT developments on business, working styles and employment opportunities, personal communication, community activities and people with special/particular needs. This must include coverage of:

**a the use of the Internet and other resources to gather information and the acknowledgement of the sources used**

Candidates need to, with help, identify suitable resources and carry out straightforward searches of the Internet to find specific information, listing the sources used (**a1**). Candidates could independently identify a range of suitable resources, carry out searches to locate information efficiently on the Internet and produce a detailed list of all sources used (**a2**). Candidates could also identify and use a comprehensive range of resources selectively; use complex techniques to refine searches on the Internet and check the information found for accuracy and bias, correctly acknowledging all sources used (**a3**).

**b the use of database software to record and analyse information collected**

Candidates need to set up a simple database, enter data collected and display results of basic processing (**b1**). Candidates could set up and use a database with related tables to enter and process collected data and display results (**b2**). Candidates could also use the facilities available in database software to analyse the results of a survey and produce reports (**b3**).

**c the use of spreadsheet software to record and analyse information collected**

Candidates need to set up a simple spreadsheet, enter data collected and display results of basic processing (**c1**). Candidates could set up and use a more complex spreadsheet to enter and process collected data and display results (**c2**). Candidates could also use the facilities available in spreadsheet software to analyse the results of a survey and produce reports (**c3**).

**d the use of multimedia software to create the presentation**

Candidates need to produce a linear multimedia presentation of **two** or more pages that includes at least **two** types of media (**d1**). Candidates could produce an interactive multimedia presentation of several pages that enables the user to take different paths through it (**d2**). Candidates could also combine different types of media to produce a comprehensive multimedia presentation, editing the components and the final presentation to produce a high quality product (**d3**).

**e the groups and individuals affected in each area**

Candidates need to list possible groups and individuals affected by developments in ICT in at least some of the areas identified (**e1**). Candidates could explain possible effects on groups and individuals of developments in ICT in most of the areas identified (**e2**). Candidates could also review and assess possible effects on groups and individuals of developments in ICT in all of the areas identified (**e3**).

**f the needs met and benefits available through the use of ICT in each area**

Candidates need to identify the benefits available from using ICT in at least some of the areas identified (**f1**). Candidates could define some of the needs that are met through the use of IT in most of the areas identified and describe the benefits available (**f2**). Candidates could also analyse and interpret the needs that are met and the benefits available through the use of ICT in all of the areas identified (**f3**).

**g the consequences to individuals or groups who have restricted or no access to ICT in each area**

Candidates need to list possible consequences to individuals or groups who have restricted or no access to ICT in at least some of the areas identified (**g1**). Candidates could explain possible consequences to individuals or groups who have restricted or no access to ICT in most of the areas identified (**g2**). Candidates could also review and assess possible consequences to individuals or groups who have restricted or no access to ICT in all of the areas identified (**g3**).

## 6.2 BACKGROUND

In this assessment unit candidates will use some of the tools and applications they learnt about while studying Teaching Module A: *ICT tools and applications*, to research, analyse and present information. This information will relate to what they have learnt about while studying Teaching Module C: *ICT and Society*.

While the unit can still be broken down into separate assignments, the requirements of the different rows of the *Evidence Assessment Grid* are more inter-related than in Assessment Unit 2: *Business systems portfolio*. Consequently, each assignment will address more than one row of the grid and the assignments will be fewer and more substantial. However, since it is envisaged that candidates will be attempting this unit towards the end of the course, they will have gained experience of completing assignments and building portfolio evidence earlier in the course.

The following discussion provides a possible approach to this unit. This will be further exemplified by the sample assignments in Section 6.3. The maximum number of marks available for each section of the grid will provide guidance on the time to allow for each assignment and the extent of the evidence required.

A suitable starting activity is for candidates to devise and carry out a survey on a topic covered in Teaching Module C: *ICT and society*. The data collected should enable them to create a database (of more than one table for grades DD and above) and a spreadsheet. Topics within Section 8.2.5: *How ICT has affected personal communications* would be particularly suitable as information can be collected easily from family and friends. They could, for example, carry out a survey of mobile phone use. Information about the type of phone used, how airtime is paid for, the use of text messaging, the amount of airtime used etc., could be collected and entered in a database. Alternatively, more able candidates might collect data on the features of types of mobile phones and the different airtime packages available. This information could then be entered into a relational database and used to select packages to meet different user requirements. In either case, spreadsheet software could be used to calculate the costs of using mobile phones for different scenarios. Similar activities could relate to the use of the Internet and different methods of connection and Internet Service Providers (ISP). Each of these sections of the portfolio (database and spreadsheet) can be awarded a maximum of 7 marks out of 50.

The remainder of the evidence for this unit will need to be based around a substantial research project and the presentation of the results of that research in a multimedia presentation. Marks are awarded for carrying out the research, producing the multimedia presentation and the content of the multimedia presentation, i.e. the effects of developments in ICT in the areas identified in the specification. Candidates may provide supplementary evidence in the form of a report, for example, if the content of their presentation does not fully cover all the areas required.

Candidates should use a wide range of resources for their research. The Internet is an obvious resource and candidates will need to be able to use it efficiently to find the information they need. However, it should not be used exclusively. Books, newspaper articles, television programs and videos will also provide valuable information, as will visits to organisations that make extensive use of new technologies. The main problem for candidates will be that they have grown up with the technologies they are investigating. Consequently they find it difficult to relate to what used to happen before. The most valuable resource for candidates to gain an insight into what happened before these technologies were widely used is older people. They should be encouraged to interview members of older generations, their parents and grandparents, older members of staff, retired people who may be only too willing to come into school and talk to the candidates about their work experiences.

When carrying out their research, candidates must ensure that they record details of the sources they use. More able candidates should also check the information they find for accuracy and bias by gathering the same information from more than one source whenever possible. This section can be awarded a maximum of 7 marks out of 50.

Having gathered the information they need, candidates must produce a multimedia presentation to present all or some of it. Where possible, specific multimedia authoring software should be used for this purpose, although suitable presentation software that allows interactivity and different paths through a presentation could also be used. The production, structure and layout of the presentation can be awarded a maximum of 9 marks out of 50.

Candidates need to present their research based on **three** requirements: the groups and individuals affected by developments in ICT in the areas listed; the needs that are met and the benefits of these developments; and the consequences to individuals or groups who have restricted or no access to ICT. Candidates may choose to present only part of this evidence through their multimedia presentation, in which case the remainder will need to be included in a report or other method. The first two requirements can each be awarded a maximum of 7 marks out of 50, while the third can be awarded a maximum of 6 marks out of 50.

### 6.3 SAMPLE ASSIGNMENT

The **two** assignments on the following pages together will enable candidates to produce all the evidence required for this unit portfolio. They may be photocopied and given to candidates.

The basic assignments are aimed at candidates working at GG to EE level but they include details of what candidates must do to meet higher grades, either as an extension or as additional tasks.

The assignments are purposely generic in nature so that they will fit a range of circumstances. Surveys might cover how people use PCs, games consoles, printers, digital cameras, reprographic equipment, digital TV, bank services, electricity or gas suppliers, etc. Teachers may wish to adapt the assignments to more closely fit their own circumstances.

### 6.3.1 Sample Assignment 1: ICT Survey

In this assignment you will:

- carry out some research on how people use the Internet;
- create a database to store the information you collect and sort and search the data to answer questions and display your results;
- create a spreadsheet to carry out some calculations and display the results.

You should look at rows **b** and **c** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

#### Task 1

Working in a group, decide what you want to find out about people's use of the Internet. Remember, you need to collect data that you can store and process using database software and some numerical data that you can put into a spreadsheet for processing.

For example, you might want to find out:

- whether males or females use the Internet more;
- whether younger people use it more than older people;
- how long people use the Internet for each day;
- how much it costs to use the Internet using different ISPs and connection methods;
- which type of site is most popular for different age groups.

You should think of other ideas as well.

## Task 2

Working in your group, decide what questions you need to ask to gather the information for processing. You need to think carefully about the type of questions you use. For example, you should ask some questions which ask people to choose from a limited range of answers if you are going to enter the information in a database.

e.g. Which age group do you belong to?  
[Below 10] [10-18] [19-25] [26-40] [41-55] [56-70] [Over 70]

Produce a questionnaire to gather this information.

You may also need to find things out from other sources. For example, you may need to find out the costs of connecting to the Internet using different ISPs and different methods of connection. You will need to decide where you will find this information and how you will collect it. In your group, carry out your survey and collect all the information you need. Make sure everyone in the group has a copy of all the information you collect.

## Task 3

Working by yourself, set up a database to store and process the information:

- enter the data;
- sort and search the database to answer the questions you thought about in Task 1;
- print out your database table;
- print the results of any sorting and searches you carry out;
- annotate these to explain what they show;
- print out some of your results as straightforward database reports.

If you are working towards higher grades your database must have at least **two** related tables. For example, you may have a table of Internet Users and a table of Internet Service Providers. You should use some complex searches, using AND and OR, to analyse the data. You should produce database reports from these related tables.

If you are working towards the highest grades, your database should include forms for data input. You should also validate some of the input data and customise the format of the reports you produce so that they meet their intended purpose and are appropriate to the target audience.

#### Task 4

Working by yourself, create a spreadsheet to process some of the data you collected:

- enter the data;
- format the data, for example by displaying prices as currency;
- enter formulae to calculate the results you need to answer the questions you thought of in Task 1;
- copy these formulae down columns or across rows as necessary;
- print a copy of your spreadsheet to show the results;
- print a copy of your spreadsheet to show the formulae you use;
- produce a chart or graph to display your results;
- print a copy of your graph.

If you are working towards higher grades, you should produce a more complex spreadsheet that makes use of more of the functions and facilities available in the software. You should also use different types of charts and graphs to display your results and make sure that suitable titles and labels are added to these charts.

If you are working towards the highest grades the format and layout of your spreadsheet should display your results accurately and clearly. You should also combine parts of your spreadsheet and charts or graphs you obtain from it in a report.

### 6.3.2 Sample Assignment 2: Presentation

In this assignment you will:

- carry out some research about the effects of developments in ICT using a wide range of different sources including the Internet;
- create a multimedia presentation to present your findings.

You should look at rows **a**, **d**, **e**, **f** and **g** of the *Evidence Assessment Grid* to see what you have to do to achieve each grade range.

You must work by yourself for this assignment.

In Module C you learnt about different ways that developments in ICT have affected different people and different areas of society. Your research should cover the impact of ICT developments on:

- business;
- working styles and employment opportunities;
- personal communication;
- community activities;
- people with special/particular needs.



## Task 1

Use books, newspapers, people, CD-ROMs and the Internet to find out about:

- the groups and individuals affected by developments in ICT in each of the areas listed;
- the benefits available from using ICT in each of the areas listed;
- the possible consequences to individuals or groups who have restricted or no access to ICT in each of the areas listed.

Your teacher will help you to find the sources of information you need.

Keep printouts, cuttings, copies or notes of the information you collect so that you can refer to it when you are producing your presentation.

List the details of the sources you use. You should list:

- the title and author of any books;
- the title and date of any newspapers;
- the title of any CD-ROM;
- the names and role of any people you talk to;
- the web address (URL) of any websites.

If you are working towards higher grades you must identify most of the sources of information you use yourself. You should also make sure you list full details of all the sources you use.

If you are working towards the highest grades, you must use a comprehensive range of resources selectively. You must also use complex techniques to refine searches on the Internet. Where possible, you should find information on the same topic from more than one source so that you can check that it is accurate and is not biased to a particular point of view.

## Task 2

You must produce a multimedia presentation to display the results of your research. You must create at least **two** pages of information and use at least **two** types of media such as text, pictures, sound, animation or video.

In your presentation you should:

- list possible groups and individuals affected by developments in ICT in at least some of the areas listed;
- identify the benefits available from using ICT in at least some of the areas listed;
- list possible consequences to individuals or groups who have restricted or no access to ICT in at least some of the areas listed.

Before you start, plan how you will organise your presentation and decide what information you will include.

You may decide to include only some of the information required. If you do, you must present the rest of your findings in some other way, for example a written report.

Create the pages for your presentation. You may find and use existing pictures, sound or video clips, but you must create some text of your own.

Link the pages together to form your presentation.

Make screen prints to show what you do and/or print out the pages of your presentation.

If you are working towards higher grades, your presentation must be interactive and must allow the user to take different paths through it. You must also:

- explain possible effects on groups and individuals of developments in ICT in most of the areas listed;
- define some of the needs that are met through the use of ICT in most of the areas listed and describe the benefits available;
- explain possible consequences to individuals or groups who have restricted or no access to ICT in most of the areas listed.

If you are working towards the highest grades, your multimedia presentation must contain a variety of different types of media, some of which you will create yourself. You must edit the multimedia components and your presentation to produce a high quality product. You must also:

- review and assess possible effects on groups and individuals of developments in ICT in all of the areas listed;
- analyse and interpret the needs that are met and the benefits available through the use of ICT in all of the areas listed;
- review and assess possible consequences to individuals or groups who have restricted or no access to ICT in all of the areas listed.

## 7 Useful Learning Resources

### 7.1 BOOKS

| Title  | Author                     | Publisher          | ISBN  |
|--|----------------------------|--------------------|---|
| Entry Level Certificate (Certificate of Achievement) Information Technology Teachers Book Student Book | Alun Hinder                | John Murray        | 0 7195 7178 2<br>0 7195 7177 4                  |
| Computer Studies Coursework Companion  | Ray Bradley                | Letts              | 0 850 97858 0                                   |
| Coursework Plans for Data Handling – Key Stages 3 & 4  |                            | AU Enterprises Ltd | 1 874 16417 7                                   |
| Glossary of Computing Terms  |                            | Longman            | 0 582 27544 X                                   |
| Go for IT L3 ed.   | Peter Bishop               | Hodder & Stoughton | 0 340 78292 7                                   |
| Information Systems for You  | Stephen Doyle              | Stanley Thornes    | 0 748 72809 0                                   |
| Information and Communication Technology for GCSE  | Walmsley, Sargent & Hinder | Hodder & Stoughton | 0 340 80006 2                                   |
| IT for the National Curriculum Curriculum pack and CD-ROM  | Ithurralde & Ramkaran      | Hodder & Stoughton | 0 340 61100 6                                   |
| IT Key Stage 4 Series Copyable materials: packs 1, 2 & 3   | G & M Williams             | Pearson            | 1 85749 125 4<br>1 85749 126 2<br>1 85749 127 0 |
| Letts Study Guide KS4 (Information Systems & Information Technology)                                   |                            | Letts              | 1 857 58331 0                                   |
| Longman Revise Guides – IT and IS  |                            | Longman            | 0 582 24494 3                                   |
| Questions for Standard Grade Computing Studies   | John Walsh                 | Hodder & Stoughton | 0 349 66407 X                                   |
| Revise GCSE Information Technology   | Peter Bishop               | Hodder & Stoughton | 0 340 66384 7                                   |
| Student Handbook for IT  | Gareth Williams            | Pearson            | 1 85749 396 6                                   |

| <b>Title</b>  | <b>Author</b>                                 | <b>Publisher</b>   | <b>ISBN</b>   |
|---|---|--------------------|---------------|
| This is IT 1  | Ithurrealde & Ramkaran                        | Hodder & Stoughton | 0 340 73809 X |
| This is IT 2  | Ithurrealde & Ramkaran                        | Hodder & Stoughton | 0 340 70153 6 |
| Work Out Computer Studies GCSE  | G Taylor                                      | MacMillan          | 0 333 44009 9 |
| Intermediate GNVQ ICT Student Book without Options                        | Molly Wischhusen & Andrew Scales              | Heinemann          | 0 435 45285 1 |
| Intermediate GNVQ ICT Tutor Resource File                                 | Molly Wischhusen & Andrew Scales              | Heinemann          | 0 435 45286 X |
| Foundation GNVQ ICT Student Book without Options                          | Gwyneth Windsor & Jim Fairfax                 | Heinemann          | 0 435 45597 4 |
| Foundation GNVQ ICT Tutor Resource File                                   | Gwyneth Windsor, Jim Fairfax & Stewart Bendon | Heinemann          | 0 435 45288 6 |
| Heinemann GNVQ: Starting Information Technology Studies                   | R Shewry                                      | Heinemann          | 0 435 45287 8 |
| Foundation GNVQ Information and Communication Technology – Second Edition | Jenny Lawson                                  | Longman            | 0 582 35708 X |
| Intermediate GNVQ Information and Communication Technology                | Jenny Lawson                                  | Longman            | 0 582 41878 X |

## 7.2 WEBSITES

Websites come and go. These sites were available at the time of going to print.

### Resources for ICT

The IT Learning Exchange

<http://www.rmplc.co.uk/eduweb/sites/itle/index.html>

<http://www.informationtechnology.freemove.co.uk/enter.htm>

<http://www.bbc.co.uk/webguide/education/schools>

Word and Excel Worksheets

<http://www.mailbase.ac.uk/lists/uk-schools/1999-03/0024.html>

Software

<http://www.stockportmbc.gov.uk/curriculum/ict/ict.htm>

Software

<http://www.nonags.com/>

Creating Web Pages

<http://www.stockportmbc.gov.uk/curriculum/ict/webdes/one.htm>

Software (free)

<http://www.adobe.com/products/main.html>

Dictionary of Computers

<http://www.lineone.net/dictionaryof/computers/>

About the Internet

<http://www.bbc.co.uk/webwise/index.shtml>

Do IT

<http://doit.ort.org/asp/login.asp>

Web Pages

<http://www.topmarks.co.uk/webdesignguide/>

Internet Basics

<http://www2.famvid.com/i101/internet101.html>

ICT Course Notes

<http://www.theteacher.freemove.co.uk/>

Computer Lessons  
<http://www.theteacher.freemove.co.uk/gcse/gcse.htm>

Input Devices  
<http://www.cedar.u-net.com/gcse/input.htm>

Networks  
<http://www.cedar.u-net.com/two/search/cont20.htm>

Resources for IT Teachers  
<http://members.xoom.com/itteachers/>

Computer Lessons  
<http://www2.magma.com/~dsleeth/kids/lessons/starter.htm>

Internet Detective  
<http://sosig.ac.uk/desire/internet-detective.html>

ThinkQuest  
<http://www.thinkquest.org/tqic/>

ICT On-Line Lessons  
<http://www.hinchbk.cambs.sch.uk/vs/itindex.html>

Exam Revision  
<http://members.aol.com/EdensorHS/revision/examopen.htm>

A-Z of Spreadsheets  
<http://www.anglia.co.uk/education/mathsneta2zofssheets.html>

Excel Tips  
<http://www.hewett.norfolk.sch.uk/curric/it/tips/excel/excel4.htm>

Creating a School Website  
[http://www.wgfl.westminster.gov.uk/wgfl\\_dir/show/ysw.html](http://www.wgfl.westminster.gov.uk/wgfl_dir/show/ysw.html)

Teach Yourself Books  
<http://www.kes.bham.sch.uk/ict/index.htm>

TopMarks  
<http://www.topmarks.co.uk/index.htm>

## **Other Sites**

<http://www.projectgcse.co.uk/it/index.htm>

<http://www.astley.northumbria.sch.uk/itweb/>

<http://atschool.eduweb.co.uk/fairfax/ict/index.htm>

<http://www.theteacher.freemove.co.uk/gcse/gcse.htm>

<http://www.school-resources.co.uk/>

<http://www.ictgcse.uni.cc/>

<http://www.hinchbk.cambs.sch.uk/vs/itindex.html>

<http://atschool.eduweb.co.uk/medproj/sab/itdept/examq/contents.htm>

<http://www.painsley.org.uk/ictcompanion/gcse/course.htm>

<http://www.roytoncrompton.oldham.sch.uk/ict/ictgcse/ICTnotes.htm>

<http://website.lineone.net/~sdodman/revision/>

<http://teaching.webprovider.com/GCSE/gcsemain.htm>

[http://www.shevington.org.uk/IT\\_Assignments.htm](http://www.shevington.org.uk/IT_Assignments.htm)

<http://homepages.tesco.net/~dpbaron/dave/ictwsf1.htm>

<http://freepages.pavilion.net/users/enigma/gcse5.htm>

<http://wyvern-community.school.hants.gov.uk/it/Project.html>

<http://www.samlearning.com/>

<http://www.dulwich.org.uk/gateway/inftech.html>

<http://www.ictcoordinator.co.uk/>

<http://home.about.com/compute/index.htm>

<http://icteachers.co.uk/teachers/links/tict.htm>

<http://www.school-resources.co.uk/Default.htm>

<http://www.payne-gallway.co.uk/free.htm>

<http://www.anglia.co.uk/education/mathsneta2zofssheets.html>

<http://www.cant.ac.uk/title/online.html>

<http://www.londoneye.co.uk>

