

**MARK SCHEME for the May/June 2011 question paper
for the guidance of teachers**

9713 APPLIED ICT

9713/32

Paper 3 (Written B), maximum raw mark 80

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

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- 1 (a) (i) Any **two** points from:
Compatible format for media playing systems/

Playback music files/lability to listen to music files
Data is compressed compared to a CD
Results in 90% compression/- reducing file size/additional storage
NOT any comment on quality [2]
- (ii) Any **two** points from:
Enables music to be transferred to from the HMC (note to markers include playing or recording)
Upload firmware upgrades
Linking to other hardware [2]
- (iii) Any **two** points from:
SD is used to record programmes on DAB radio
Programmes/files can be transferred to music centre
Music on music centre can be recorded onto SD card and transferred to mobile phone
Additional storage device [2]
- (b) Any **four** from:
Computer dials a telephone number from a list selected people/randomly
System displays details of interviewee
Interviewee asked a question from a script
Response recorded on operator's screen
Script software decides on next question
Record stored
Responses analysed [4]
- (c) Any **three** points from
Because questions are multiple choice can be directly input into computer system
Requiring no human interpretation
Results stored in a database/spreadsheet
Filters can be applied to select interviewees e.g. by age group/gender
Results presented as report/graph [3]

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- 2 (a) Any **three** points from
Company inputs predicted costs/values as data
Model outputs production costs/staff required
Profit prediction made
System values are adjusted-‘what if’ scenario
Use of goal-seek/break even point
Costs of individual parts are totalled [3]
- (b) Any **three** points from:
Cost of materials
Cost of manufacturing
Projected sales figures
Estimated selling price of system
Projected economic conditions
Profit margin required
Variable to adjust for break even calculation [3]
- (c) Use of any **four** of the following:
Milestones identified
...such as selection of hardware components
Time required for each stage set
Project broken into smaller tasks
Tasks that can run in parallel identified
...such as write software and design casing
Tasks dependent upon previous ones identified
...e.g. cannot determine software until hardware decided
% Progress reported week by week
Alarms if task is late/ reminder when task due to finish or start
Critical path identified through whole project
Allocate resources
Identify workloads
GANTT chart illustrating project
Use of PERT
Event chain diagrams [4]

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- 3 (a) Any **four** points from:
- Intranets provide secure local email
 - Intranets enable employees to co-ordinate activities
 - e.g. book video conference suite/arrange a meeting through seeing one another's diaries
 - Intranet provides fast access to company data
 - Hold company templates
 - Hold company specific information secure from the general public
 - Forums can be set up for discussion of confidential matters
 - Provides a means of informing employees about news
 - NOT video conferencing
- [4]

- (b) Any **four** points from:
- ID theft
 - Money taken from personal accounts
 - Credit card theft when card account number/PIN intercepted
 - Delete Worries about on-line banking
 - In reality computer fraud can be prevented by encryption of transmitted data
 - The probability of being hacked is very low
 - Phishing or Pharming is a problem
 - Too easy to be fooled into providing personal details
 - Keyloggers can be used
 - Use of personal information
 - To commit criminal acts resulting in blame for individual
 - Purchase of items charged to individual
- [4]

- 4 (a) Any **three** points from:
- Login boxes/user id and password
 - Remember my user id
 - Registration hyperlink for customers to set up Internet banking
 - Hyperlink to other bank services e.g. loans application
 - Password reminder facility
 - FAQ/help
 - Information about bank's security software
 - Download link for security software
 - Warning about phishing
 - Accessibility options
 - Indication of security e.g. padlock in browser
 - Not security question
- [3]

- (b) Any **three** points from:
- Device to generate one off code/TAN sent by email
 - Use of chip and PIN
 - IP address logging
 - Security question/letters from a security code (NOT password but memorable data)
 - Biometric device e.g. face recognition using webcam or fingerprint
 - Digital certificate
 - Bank to call back/text message customers
- [3]

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(c) Any **three** from:

(i) Virtual Private Network
Secure means of tunnelling using public network
Cheaper than creating a private WAN
Used by staff remotely to access system [3]

(ii) Voice over Internet Protocol
Uses Internet/Intranet to carry telephone calls
Sound input is compressed for transmission
Requires dedicated software
Inter-branch/international calls are cheaper than landline calls [3]

(iv) Proxy server

Acts as a buffer between a LAN and a WAN/Internet
Filters requests from users/returned pages
Uses a cache of requested pages hence reducing time to download a page
Only requires 1 network link to the Internet
Enables better management of the usage of the Internet
Forwards user requests to appropriate server
Returns web pages requested if allowed
Stores pages for faster browsing [3]

5 Any **eight** points comparing from:
Hardware and software comparison
e.g. bandwidth, size of screens, costs, dedicated suites
How they are used compared
e.g. high level directors discussion compared to learning projects in school
Security considerations
communications requirements
Quality of transmission

Maximum of 6 marks for just one system [8]

6 Any **three** points from:
Much faster to reach a decision for bank
Reduced number of bad debts for bank
...gives more accurate advice than a bank employee
Leading to better customer satisfaction
Reduced staffing required to deal with customer requests
...lowers payroll [3]

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- 7 Any **six** points from:
- Population could apply to go on electoral register
 - Read local government news
 - Log into their local tax records
 - Email local government
 - Apply for official documents e.g. driving licence or passport
 - Search for local government decisions on planning/budgets/policies
 - Read a blog from local government
 - Look for a job with local government
 - Pay tax/bills to local government
 - Apply for grants
 - Identify members of govt
 - Look up maps
 - Access details of registered businesses
 - Find details of local facilities Opening times of services/schools/tourism/hospitals
 - Voting online for local elections
 - Submit a tender for a contract
 - NOT online shopping except for specific Local Gov items e.g. book to pass the driving test
- [6]
- 8 (a) Any **five** points from:
- ICT components have fallen in price due to improvements in production
 - Telecomms cost is also falling
 - New smaller processors have produced smaller/cheaper PCs
 - Developments in ICT encourages recycling of older equipment that can be used
 - Advances in devices enables disabled people to use ICT
 - Online shopping enables housebound people freedom of choice
 - More/cheaper Computer based training
 - Computers provided in public places for people to use
 - Open source software has improved for users
 - Electric power provided manually- e.g. windup systems
 - Broadband is being introduced into more areas/attracting more customers
 - Improved telecom links to remote areas e.g. more satellites
 - ...more widespread network for mobile phones
 - Enables information to be more accessible
 - Mobile phone broadband development
- [5]
- (b) Any **four** from:
- Provide courses in using computers
 - Develop CBL courses for self instruction
 - Provide trainers to go into villages to run courses
 - Purchase low cost systems for the villages
 - Prepare written training material for villages
 - Provide the necessary telecoms hardware for villages
 - Creating forums for self help
- [4]

9 Any **eight** points. Max 5 for bullet points if fail to describe any preventative measures

| problem | prevention |
|---------------------------------|---|
| unauthorised access to a system | <ul style="list-style-type: none"> • Not very common due to security in place such as firewall • And encryption will make reading the data even more difficult • Use of non-dictionary passwords • Regularly changing password • Use of access rights to limit users |
| Deliberate sending of malware | <ul style="list-style-type: none"> • Ensure anti-software is kept up to date |
| Phishing | <ul style="list-style-type: none"> • Do not open unknown emails • use filtering of emails |
| Pharming | <ul style="list-style-type: none"> • Advise users of the risk |
| Cyberbullying | <ul style="list-style-type: none"> • Prevented by education young people |
| Grooming | <ul style="list-style-type: none"> • Prevented by education young people |
| Spam | <ul style="list-style-type: none"> • Use of spam filters |