

Mapping grid

For each item in the examination, the grid shows the marks allocated, the syllabus content and syllabus outcomes to which it relates. The bands on the performance scale it is targeting are shown in the suggested responses which follow. The range on the bands shows the performance candidates may be expected to demonstrate in their responses. That is, if an item is shown as targeting Bands 3–5, candidates who demonstrate performance equivalent to Band 3 descriptions should be able to score some of the marks on the item, while those who perform at Band 5 or above could be expected to gain high marks. In the case of one-mark items, candidates who demonstrate performance at or above the bands shown generally could be expected to answer the item correctly.

Question	Mark	Content	Outcome	Band
1	1	Project Work – designing solutions	H3.1, H5.1	2–3
2	1	Project Work – designing solutions	H5.1, H7.1, H7.2	2–3
3	1	Project Work – designing solutions	H6.1, H6.2	2–3
4	1	Project Work – designing solutions	H1.1, H6.1, H6.2	2–3
5	1	Communication Systems – transmitting/receiving	H1.1	3–4
6	1	Information Systems and Databases – information systems	H1.1, H1.2, H2.1	3–4
7	1	Communication Systems – transmitting/receiving	H1.1	3–4
8	1	Project Work – understanding the problem	H1.1, H1.2, H2.2	2–3
9	1	Project Work – understanding the problem	H1.1, H1.2, H4.1, H5.1, H5.2	3–4
10	1	Information Systems and Databases – information systems	H2.1	4–5
11	1	Information Systems and Databases – information systems	H5.1	3–4
12	1	Communication Systems – transmitting/receiving	H1.1	3–4
13	1	Project Work – understanding the problem	H5.1, H6.1	4–5
14	1	Information Systems and Databases – information systems	H1.1, H2.1	5–6
15	1	Information Systems and Databases – information systems	H6.1, H6.2	5–6
16	1	Communication Systems – transmitting/receiving	H2.1, H2.2	4–5
17	1	Communication Systems – examples of	H2.1, H1.2	4–5

Question	Mark	Content	Outcome	Band
18	1	Information Systems and Databases – information systems	H2.1	3–4
19	1	Project Work – designing solutions	H7.1, H7.2, H5.1	2–3
20	1	Communication Systems – transmitting/receiving	H1.1	3–4
21	10	Project Work – understanding the problem	H1.1, H1.2, H4.1, H5.1, H5.2	3–4
22	9	Communication Systems – issues	H1.1, H1.2, H3.2, H5.2	4–5
23	12	Information Systems and Databases – organisation methods	H1.1, H2.1	4–5
24	9	Communication Systems – transmitting and receiving	H1.1, H1.2, H4.1, H5.1, H5.2	3–4
25	20	Transaction Processing Systems	H1.1, H1.2, H2.1, H2.2, H4.1, H6.1	(a) 2–3 (b) 3–4 (c) 5–6
26	20	Decision Support Systems	H1.1, H1.2, H2.1, H2.2, H4.1, H6.1	(a) 2–3 (b) 3–4 (c) 5–6
27	20	Automated Manufacturing Systems	H1.1, H1.2, H2.1, H2.2, H4.1, H6.1	(a) 2–3 (b) 3–4 (c) 5–6
28	20	Multimedia Systems	H1.1, H1.2, H2.1, H2.2, H4.1, H6.1	(a) 2–3 (b) 3–4 (c) 5–6

Answers

Section I

- 1 A
- 2 C
- 3 A
- 4 D
- 5 B
- 6 C
- 7 B
- 8 D
- 9 C
- 10 B
- 11 A
- 12 C
- 13 D
- 14 C
- 15 C
- 16 A
- 17 D
- 18 B
- 19 A
- 20 A

Marking Guidelines

Section II

Question 21(a)

Marking guidelines

Criteria	Marks
• Direct changeover/conversion	1

Question 21(b)

Marking guidelines

Criteria	Marks
• The computer system is not described in the body of the article as 'failing' but as taking longer for operators unfamiliar with the new system and apparently untrained in it to process data. There is no evidence that hardware or software has broken down or is inadequate.	2
• Less comprehensive	1

Question 21(c)

Marking guidelines

Criteria	Marks
• Organisational (e.g. training of staff), technical, scheduling	3
• One aspect only	1–2

Question 21(d)

Marking guidelines

Criteria	Marks
• Benefit of <i>pilot</i> is that problems can be identified and eliminated in a non-intrusive way using a sub-sample of the system without affecting the whole. Benefit of <i>parallel</i> is primarily that the old system can be reverted to if the new one proves problematic. Benefit of <i>phased</i> is that problems can be addressed in a gradual way and solved individually as only parts of the system are replaced one at a time.	4
• One poorly explained or only one given but well explained	3
• Poorly explained or methods stated only	1–2

Question 22(a)

Marking guidelines

Criteria	Marks
• The screen is not as cluttered as it would be if all choices were displayed via radio buttons or similar.	1

Question 22(b)

Marking guidelines

Criteria	Marks
• C: <i>any</i> word processing application	3
• D: <i>any</i> web browser	
• 1 mark for only one correctly identified or 2 marks for stating as branded applications rather than generalised types	1–2

Question 22(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Plain text does not allow data to be displayed as tables or include any graphical content, fonts or styles and paragraphs are often lost and the result may be difficult to read. If HTML is used in the e-mail body then most e-mail applications will correctly display the data with all formatting intact. The result will be easier to read and more clearly laid out. 	3
<ul style="list-style-type: none"> Explains both with attempt to compare 	2
<ul style="list-style-type: none"> Explains both with no benefits stated 	1

Question 22(d)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> <u>My name is (first last)</u> is confusing (ambiguous whether first name <i>then</i> last OR first name <i>placed</i> last?). Re-express as “surname followed by given name” <u>E-mail my results to:</u> looks like the e-mail address is to be written in the space provided to the right, but this is not the case. Change wording to “e-mail my results to the following addresses (check boxes)”. 	2
<ul style="list-style-type: none"> No suggested improvements, merely identifies two faults 	1
<ul style="list-style-type: none"> Identifies one fault in interface 	0

Question 23(a)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> To allow students to be sorted by suburb AND to allow pre-sorting of mail by suburb resulting in cheaper rates. 	1

Question 23(b)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> A unique identifier is required for each student as students may have identical names. 	1

Question 23(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Check DB fields become the columns of the SS and the separate DB records become the rows of the SS. Check data types were retained. Check unwanted headings do not appear. Check empty rows are not present (from blank records). The database would be first saved as a delimited file (tab or comma delimited) then the spreadsheet application started. From this File> Open chosen and the delimited file opened). 	3
<ul style="list-style-type: none"> One or two steps omitted 	2
<ul style="list-style-type: none"> More than two steps omitted 	1

Question 23(d)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Sorted on either reverse chronological ‘Date of birth (DOB)’ OR ‘Year at school’ when expressed as a number OR both 	3
<ul style="list-style-type: none"> States two OR three but not as a reverse sort 	2
<ul style="list-style-type: none"> States one only 	1

Question 23(e)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> TABLE 1: ID (Primary); Surname; Given names; Gender; Year at school; DOB TABLE 2: (New Family ID-Primary), Address; Home phone; Father's phone; Mother's phone; ID of children (links to table 1) Two or one errors OR fails to identify primary keys OR fails to identify link relationship More than two errors 	<p>4</p> <p>2-3</p> <p>1-2</p>

Question 24(a)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> switch: identifies the destination and sends data to the correct route hub: merely a centralised connection point for cabling router: identifies the destination and fastest route with least congestion, links destinations with variant protocols 1 mark off for each error 	<p>3</p> <p>1-2</p>

Question 24(b)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> This connection would preferably be fibre at up to 1 Gbps and large bandwidth, but could be twisted pair Ethernet cable (10BASE-T or 100BASE-T) at 10 or 100 Mbps or microwave/wireless. Incomplete or inadequate answer 	<p>2</p> <p>1</p>

Question 24(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Network could be connected via modem, ISDN, satellite. Usually uploading speeds are significantly less than downloading as the latter is more often the service required. Modem is 56K and slowest option, unlikely to be of use to the number of users here. Two 64K ISDN lines would be tolerable but fast fibre broadband is more likely. Incomplete or inadequate answer 	<p>2</p> <p>1</p>

Question 24(d)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> A print server queues jobs and identifies them. It can limit printing to quotas set for users or for printers. It keeps a record logbook of all jobs. Incomplete or inadequate answer 	<p>2</p> <p>1</p>

Section III

Question 25(a)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> data warehousing: consolidates all data held into single store, read-only; stores historical snapshots of data Poor example/poor definition Specifies some relevant information 	<p>3</p> <p>2</p> <p>1</p>

Question 25 (a)(ii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> differential backup: only stores files altered since last full backup Poor example/poor definition Specifies some relevant information 	<p>3</p> <p>2</p> <p>1</p>

Question 25(b)(i)

AnimationWorld

Select your tutorial:

- Tute1 \$9.95
- Tute2 \$9.95
- Tute3 \$9.95

Billing Information



Your payment information is secure and never shared. [Learn more.](#)

Card type:

Credit Card Number:

Expiration Date:

First Name: (as it appears on card)

Last Name: (as it appears on card)

Country:

Billing Address 1:

Billing Address 2: (optional)

City:

State:

ZIP code: (5 or 8 digits)

e-mail address: (You will be e-mailed a receipt for this transaction)

Home Telephone: (Your phone number will not be shared. [Click the privacy link for details.](#) [Privacy](#))

Security Measure: Type the letters and numbers displayed in the box. Characters are not case sensitive. [Help](#)



Features:

- all entry boxes aligned, shadowed to show on background, correct sizes
- name of company, price and order are all clear
- card info before address
- convenience of drop-downs for consistent descriptions
- security feature built in

Marking guidelines

Criteria	Marks
• 3 features with reasons	4
• 2 features with reasons	3
• 1 feature with reasons	2
• 1 feature without reasons	1

Question 25(b)(ii)

Marking guidelines

Criteria	Marks
• To prevent unlimited downloads to distribute among friends and to prevent the site address being shared among friends.	3
• AnimationWorld is likely to impose these restrictions as they would suffer most from lost sales.	
• One issue only or no answer to second bullet point	1–2

Question 25(b)(iii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> • – Tutorial selected – Card details completed – PayPal deducts money from account, takes commission and sends remainder of payment to AnimationWorld – AnimationWorld sends transaction e-mail to customer – Customer downloads within time or fails to and requests extension 	2
• Incomplete responses	1

Question 25(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> This system is likely to be real-time as customers should not be kept waiting and sales may be erratic and seasonal. CDs may be lost in the mail or damaged but ftp downloading can be repeated at the user's convenience. Costs may be reduced as no stocks need to be manufactured or kept in storage. Downloads may be too large for dial-up and so alternative CD may need to be offered. Users may prefer to have a physical object for their money. Credit card payments may restrict some users who may not own a card. Users may not have the software or technical confidence to use the online system for transactions. 	5
<ul style="list-style-type: none"> Failure to identify system OR insufficient detail in second part 	3-4
<ul style="list-style-type: none"> Failure to identify system AND insufficient detail in second part 	1-2

Question 26(a)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Information is stored implicitly in the distribution of weights in a matrix rather than explicitly as rules. An example of the system would be the game of "20 questions", which checks different responses to questions against weightings allocated for various final correct guesses in the quest to identify an unknown object. 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

Question 26(a)(ii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> The control structure or rule interpreter of an expert system. It makes inferences based on the information in an AI database. An example is the inference engine of Mycin which assists doctors in identifying bacterial infections. 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

Question 26(b)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> IF the printer prints AND the red light flashes AND the printer is not recognised THEN ensure software installed AND check the ink. IF the printer prints AND the red light does not flash AND the printer is recognised THEN do nothing. 	2
<ul style="list-style-type: none"> 1 mark off for each error 	1

Question 26(b)(ii)

Marking guidelines

Criteria	Marks
<pre> graph TD A[Printer prints] -- True --> B[Printer not recognised] A -- False --> C[Printer not recognised] B -- True --> D[Check data cables, software, ink] B -- False --> E[Printer not recognised] C -- True --> F[Red light flashes] C -- False --> G[Printer not recognised] F -- True --> H[Check ink, jam] F -- False --> I[Printer not recognised] G -- True --> J[Check power cable, data cable, software] G -- False --> K[Printer not recognised] I -- True --> L[Check jam] I -- False --> M[Check software, ink] E -- True --> N[Check software, ink] E -- False --> O[Check software, ink] K -- True --> P[Check software, ink] K -- False --> Q[Check software, ink] </pre>	4
<ul style="list-style-type: none"> 1 mark off for each error 	1-3

Question 26(b)(iii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Each frame should include questions relating to one aspect only. Each answer should use two radio buttons for yes/no responses. 	2
<ul style="list-style-type: none"> One aspect only 	1

Question 26(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Statistical data describing the frequency of each problem should be used to develop relative weightings for each. These weightings should be used in place of absolute yes/no responses to suggest the next most likely response. In this way the matrix of questions required to be answered can be reduced considerably and a <i>most likely</i> diagnosis made to reduce help-desk wait times. 	5-6
<ul style="list-style-type: none"> Explanation OR discussion only 	3-4
<ul style="list-style-type: none"> Poor responses 	1-2

Question 27(a)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> CAD – Computer Assisted Drawing; CAM – Computer Assisted Manufacturing – using a pre-drawn 3D image to sculpt from material an actual shape using lasers. 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

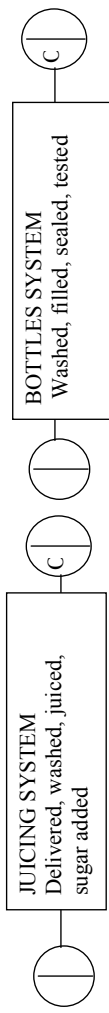
Question 27(a)(ii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Controls the hardware performing the manufacturing process. This is an integrated circuit which performs arithmetic, logical and control functions required. Alternative term: Controller 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

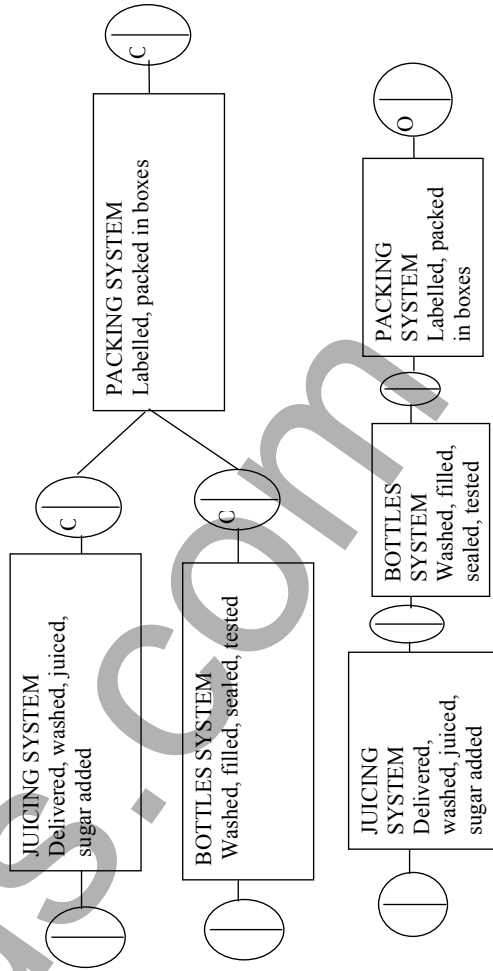
Question 27(b)(i)

3 marks



Question 27(b)(ii)

2 marks (1 mark each)



Question 27(b)(iii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Underdamping occurs when a change is too fast and the actuator overshoots the desired level. This leads to rapid fluctuations before stability is reached. The speed of filing must be optimised by slowing it so critical damping is achieved. 	3
<ul style="list-style-type: none"> Some points above covered only 	1–2

Question 27(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Students should cover and critically analyse <i>collecting</i> issues such as: <ul style="list-style-type: none"> –means of counting items in stock, such as automated inventory –automated ordering for customers –integration of the ordering system with current stock numbers –numbers of items in transit to dock and on the way to the customer <p>Participants should have access to accurate current figures which can be <i>displayed</i> from any terminal. Reports need to be able to be printed in various formats for different participants (manager, clerks, sales, truck drivers).</p>	6
<ul style="list-style-type: none"> Failure to analyse 	4–5
<ul style="list-style-type: none"> Failure to cover central issues 	1–3

Question 28(a)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> A means of reducing the file size of a video file. One method is to record only those changes in pixels between frames rather than refresh the entire frame (e.g. QuickTime format). 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

Question 28(a)(ii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> An audio file attached to a written note in a wordprocessor (<i>Teacher remark: Audio notes are mentioned in the syllabus p. 58!</i>) Audio recordings are directly linked to the typed notes taken when recording. For example, if the subject of the notes typed while recording is known the audio note can be located. 	3
<ul style="list-style-type: none"> Poor example/poor definition 	2
<ul style="list-style-type: none"> No example/incorrect definition 	1

Question 28(b)(i)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Animation, sound, movie, text and graphic. Scripts are also included in this Cast window. Only graphics appear in the frame of the menu page. 	3
<ul style="list-style-type: none"> 1 mark off for each error. Failure to identify those that appear. 	1–2

Question 28(b)(ii)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> Hierarchical / non-linear – since the project uses a central home menu and three submenus. 	2
<ul style="list-style-type: none"> Other responses: linear, hybrid 	1

Question 28(b)(iii)

Marking guidelines

<ul style="list-style-type: none"> Sarah can have users explore aspects of each topic at their own pace and include video clips as optional extras. Using hypermedia she can create interesting ‘hotspots’ which are secreted on a page to add interest to the project. Users could choose music tracks to listen to while watching. 	3
<ul style="list-style-type: none"> Only one mentioned 	1–2

Question 28(c)

Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> • Social: some material may be unsuitable for some adolescent ages (drug use/sex issues, etc.); school friends may make use of her personal information in negative ways; issues dealt with are very personal and she may unintentionally betray a confidence; permission from those photographed to use their image on a web page • Ethical: legal issues with copyright for music, images; need to have permission granted before material from magazines is used; clearance from school with parents for photos to be used of friends 	5–6
<ul style="list-style-type: none"> • Two issues only OR weak examination of three 	3–4
<ul style="list-style-type: none"> • One issue only OR very weak examination of three OR weak examination of two 	1–2