

Mark Scheme for January 2012

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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

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Annotations

Annotation	Meaning
✓ x	to show where marks have been earned or not earned

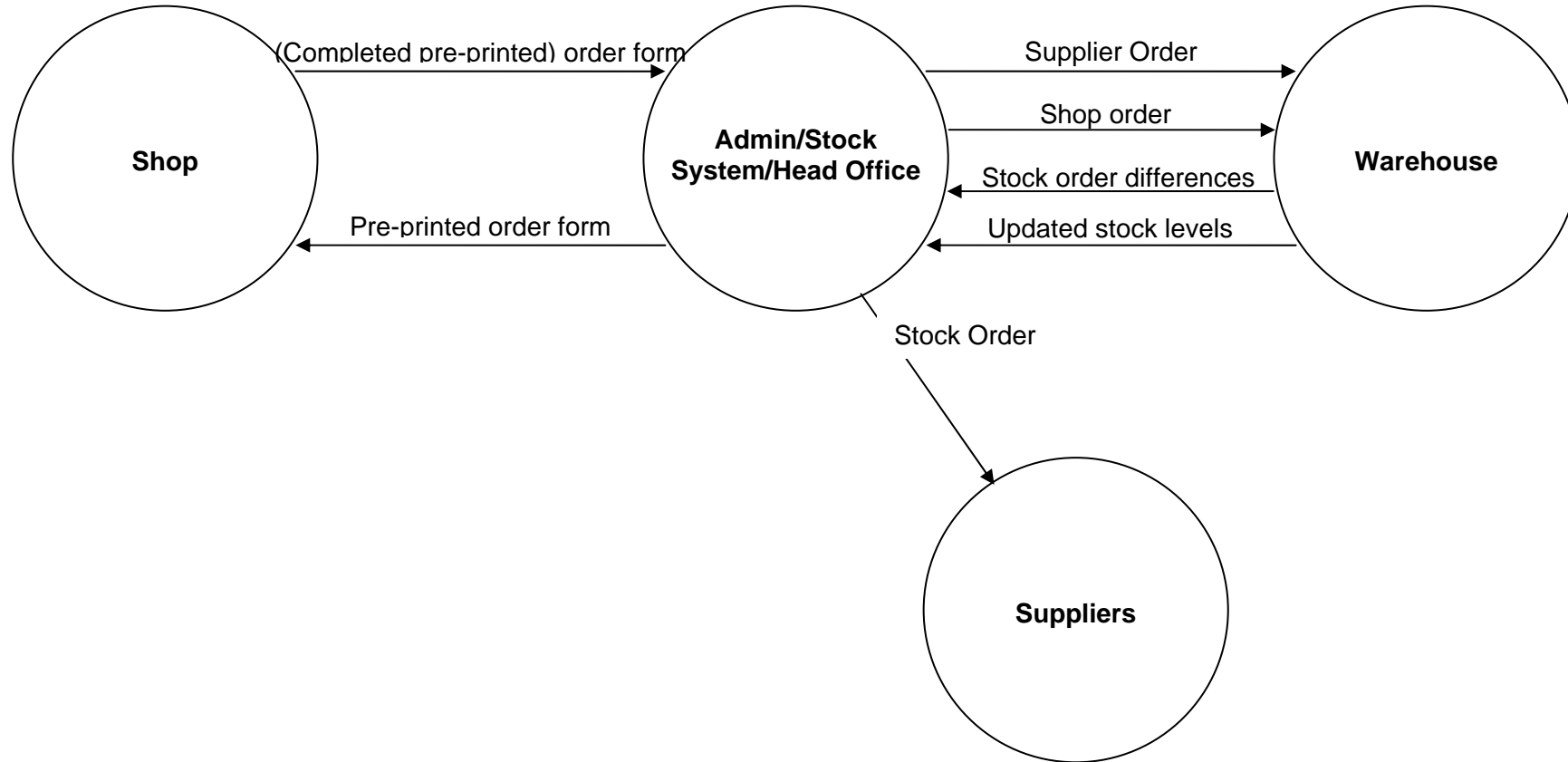
Subject-specific Marking Instructions

There are 100 marks available for this test. They are allocated as follows:

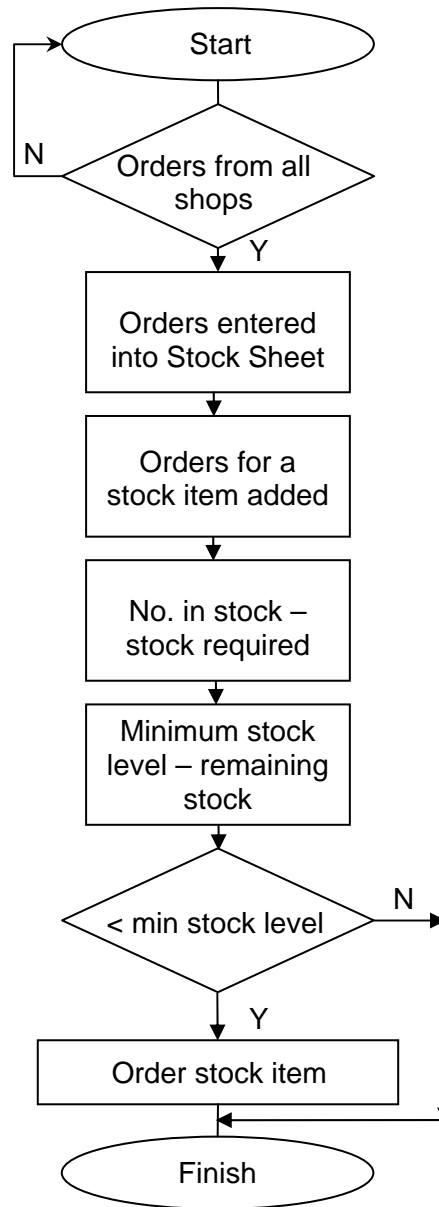
- Tasks 2, 3 and 4 30
- Section A of the test paper 50
- Section B of the test paper 20

Task	Answer	Marks	Guidance								
2	<p>12 marks available for Level 0 DFD (See data flow diagram Example 1 (context diagram))</p> <p>1 mark available for each of:</p> <ul style="list-style-type: none"> • shop (manager) clearly identified – E • warehouse clearly identified – W • administration office/stock system as central node - A • suppliers clearly identified - S • logical order of processes - L • direction of <u>all</u> flows identified - D • consistency – C <p>If A and E/W/S marks awarded then: 1 mark for each correct flow of information between A and identified entity (Max 5)</p> <p>Evaluation – 3 marks available</p> <table border="1"> <thead> <tr> <th>Mark</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Some comment on method(s) used to develop L0 DFD</td> </tr> <tr> <td>2</td> <td>A strength / weakness in method(s) used identified</td> </tr> <tr> <td>3</td> <td>A strength and weakness in method(s) used identified</td> </tr> </tbody> </table>	Mark		1	Some comment on method(s) used to develop L0 DFD	2	A strength / weakness in method(s) used identified	3	A strength and weakness in method(s) used identified	15	
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1	Some comment on method(s) used to develop L0 DFD										
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3	A strength and weakness in method(s) used identified										

Task 2 Example



Task	Answer	Marks	Guidance
3	See following example 1 mark for start and end defined 1 mark for each correct decision with labels (max 2) 1 mark for processes (max 5) 1 mark for consistent notation 1 mark for correct mathematical logic	10	



Task		Answer	Marks	Guidance
4		<p>1 mark each for (max 5):</p> <ul style="list-style-type: none">• use of colour/font/white space• logical order of information• identification of TCS / shop name and location• report title• supplier details including unique identifier• current shop stock levels• reorder level• all data/information shown is appropriate with no omissions/extra data required	5	

SECTION A

Note TCS = The Corner Shop

Question		Answer	Marks	Guidance
1		<p><i>Two from, max 2 marks per purpose</i></p> <p>To upgrade applications software/operating system (1st) using the same vendors (1)</p> <p>To increase the security of information (1st) held on the computers (1).</p> <p>To produce reports for the owner (1st) example of report (1)</p> <p>Reduce errors (1st) all calculations automated (1)</p>	4	
2		Supplier details (1 st) be accessible through a unique supplier number (1)	2	
3	(a)	<p><i>2 from, Max 2 per functional requirement</i></p> <p>Stock system shows re-order levels (1st) of each stock item (1)</p> <p>Daily/automatically generated report (1st) showing which items need reordering/number of each stock item held in the warehouse/ the number to be reordered (1)</p> <p>Limits user errors (1st) through automatic features of software (1)</p>	4	
	(b)	<p><i>2 from, Max 2 per functional requirement</i></p> <p>Access to the supplier system (1st) to access supplier details, including the stock they supply (1)</p> <p>Details of orders (1st) made will also need to be recorded (1)</p> <p>Limits user errors (1st) through automatic features of software (1)</p>	4	

Question			Answer	Marks	Guidance
4	(a)		Provide an iPad (1 st) that can link with the other computers (1)	2	
	(b)	(i)	Time	1	Correct Answer Only
		(ii)	<i>To be awarded marks for this part of the question b(i) must be correct</i> Implemented in evenings (1st) when TCS is closed (1) to minimise disruption (1)	3	
5			<i>Max 4:</i> Incorrect/no delivery (1 st) as incorrect stock levels held (1) on spreadsheet (1) so stock not being available (1) Quantity of stock required (1 st) illegible on order (1) due to bad quality fax (1) or bad handwriting (1)	4	


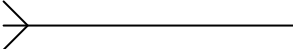
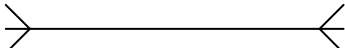

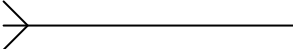
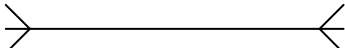

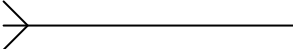
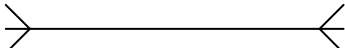
Question	Answer	Marks	Levels of Response
6	<p>Responses may include:</p> <p>Advantages Limits detrimental effect on TCS Old system still being used so if problems found impact will be negligible If system fails then most information will still be available</p> <p>System implemented slowly into shops – means managers can become confident and share training etc</p> <p>Disadvantages Can increase staff workload if information moves around business Takes a long time to implement all of new system</p> <p>Very expensive in terms of time and staff costs</p> <p>Examples Information moves around TCS between areas</p> <p>Can be implemented into shops first to lessen impact on system as orders could be printed and sent to admin staff</p>	12	<p>H (9 – 12 marks) Candidates will show a clear understanding of the question and include detailed explanations of at least 2 the advantages and at least 2 disadvantages of the phased implementation method.</p> <p>Examples will relate to TCS.</p> <p>The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Technical terms will be used appropriately and correctly.</p> <p>M (5 – 8 marks) Candidates will show an understanding of the question. At least 2 advantages and at least 2 disadvantages of the phased implementation method with some explanation. Some examples given relate to TCS.</p> <p>The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation. Technical terms will be mainly correct.</p> <p>L (0 – 4 marks) Candidates will demonstrate a limited understanding of the question. Information may be a list of points, with little or no explanations / descriptions. At least 1 advantage and 1 disadvantage will be considered. Examples, if given, may not relate to TCS.</p> <p>Information will be poorly expressed and there will be a limited, if any, use of technical terms. Errors of grammar, punctuation and spelling may be intrusive.</p>

Question		Answer	Marks	Guidance
7		<p><i>Advantage, 2 from:</i> Potential to experience first-hand (1) all aspects of tasks carried out (1) Workloads / methods of working / delays / bottlenecks (1) can be identified (1) Effects of environment (1st) in warehouse (1) can be assessed (1)</p> <p><i>Disadvantage, 2 from:</i> Can be time consuming (1) and costly (1) Problems may not occur (1) during observation (1) User/warehouse staff (1) may put on a performance (1) May not see all tasks (1) usually carried out in a job role (1)</p>	4	
8		<p><i>Two from, max 2 marks per measure e.g.</i></p> <p>Locks on doors / windows (1st) only authorised people/owner has keys limiting access (1) Cages/locks on computer (1st) to prevent theft (1) Back-ups held off-site (1st) can be used in case of emergency (1) Blinds at windows (1st) limits how much can be seen when offices are closed (1) CCTV cameras (1st) can video/live stream what is happening (1)</p>	4	
9	(i)	Health and Safety at Work Act (1974)	1	Correct Answer Only

Question	Answer	Marks	Guidance
	(ii) <i>5 from: for example:</i> Workstations need to be ergonomically set-up (1) Chairs must be adjustable (1) Screens/monitors should not be positioned too far away from eyes (1) Lights should not produce a glare on the screens/monitors (1) Equipments such as wrist rests/foot rests should be provided (1) Equipment provided should be fit for purpose (1) Regular breaks should be scheduled (1) Eye tests paid for (1) Risk assessments should be carried out (1)	5	

Section B

Question		Answer	Marks	Guidance
10		<p><i>3 from:</i></p> <p>outline program specifications (1) system flowchart (1) file organisation (1) access methods (1) error messages (1) screen/report layouts (1)</p>	3	
11	(i)	<p><i>4 from</i></p> <p>To show routines/procedures that were tested (1) To include data used during tests (1) and outcomes of tests (1) To show remedial action taken (1) Can include tests on interaction of procedures/routines (1)</p>	4	
	(ii)	<p><i>2 from</i></p> <p>If anything goes wrong with system can be referred to (1) to see if error has occurred during testing (1)</p>	2	

Question	Answer	Marks	Guidance								
12	<p><i>Any 2 from: relationship and label must match</i></p> <table border="1"> <thead> <tr> <th>Label (1 mark each)</th> <th>Relationship (1 mark each)</th> </tr> </thead> <tbody> <tr> <td>1:1 / One to one</td> <td></td> </tr> <tr> <td>1:M / M:1</td> <td></td> </tr> <tr> <td>M:M / Many to many</td> <td></td> </tr> </tbody> </table>	Label (1 mark each)	Relationship (1 mark each)	1:1 / One to one		1:M / M:1		M:M / Many to many		4	
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Question	Answer	Marks	Levels of Response
13	<p>Responses may include:</p> <p>Advantages Analyst is able to clearly break down the system under investigation Diagrams can be easier for non-specialists to understand Documents/data stores and processes can be clearly linked Shows external entity interaction with system</p> <p>Disadvantages Many different ways of developing a DFD Lots of different symbols can be used Easy to become very large Can be difficult to see all processes/data stores and the interaction</p>	7	<p>H (6 – 7 marks) Candidates will show a clear understanding of the question and include detailed evaluation including the advantages and disadvantages of the use of DFD's Candidates provide a conclusion clearly justifying the use of (DFD's) as a method of modelling data flows within a system. The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Technical terms will be used appropriately and correctly.</p> <p>M (3 – 5 marks) Candidates will show an understanding of the question and include an evaluation including the advantages and disadvantages of the use of DFD's. Evaluation may be limited or one-sided.</p> <p>Candidates provide a conclusion relating to the use of (DFD's) as a method of modelling data flows within a system, although this may be implied and limited in scope.</p> <p>The information will be presented in a structured format.</p> <p>There may be occasional errors in spelling, grammar and punctuation. Technical terms will be mainly correct.</p> <p>L (0 – 2 marks) Candidates will demonstrate a limited understanding of the question.</p> <p>Information may be a list of advantages or disadvantages, with little or no explanations. Information will be poorly expressed and there will be a limited, if any, use of technical terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p>

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