

GCE

Applied ICT

Unit **G054**: Software Development

Advanced GCE

Mark Scheme for June 2015

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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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Subject-specific Marking Instructions

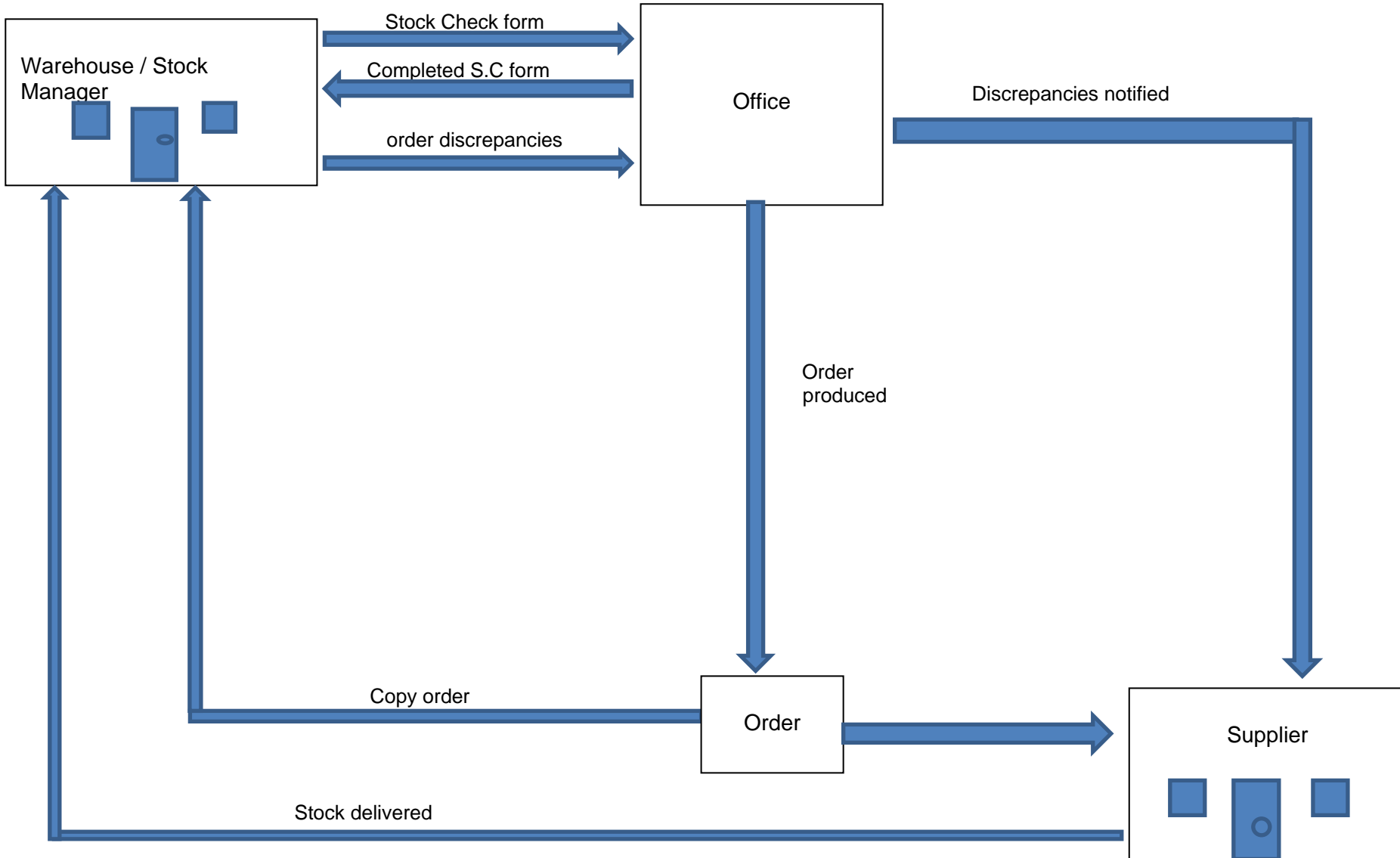
There are 100 marks available for this test. They are allocated as follows:

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

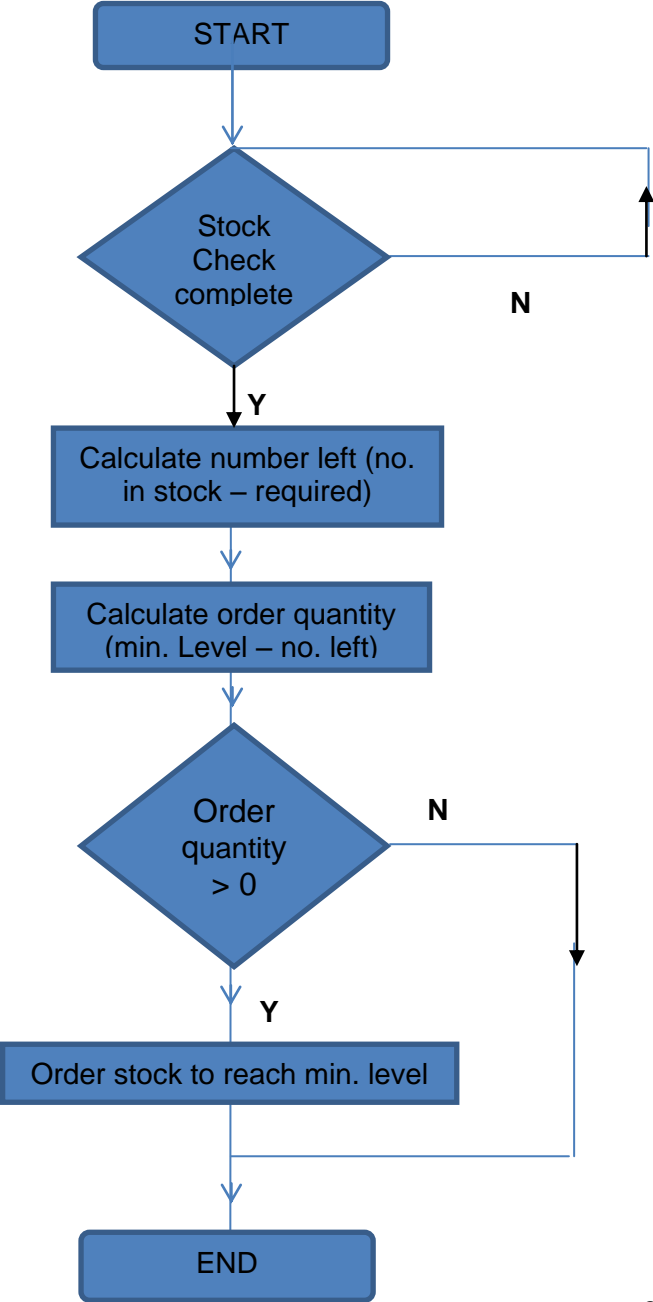
Task	Answer	Marks	Guidance
2	<p>12 marks available for RPD (see attached example)</p> <p>1 mark available for each of: Stock manager/warehouse clearly identified - SM Supplier clearly identified - SU Administration office/staff clearly identified – A Logical order of processes - L Consistency - C</p> <p>1 mark for each correct flow of information - F (Max 7)</p> <p>Mark</p> <p>1 Some comment on method(s) used to develop RPD</p> <p>2 A strength / weakness in method(s) used identified</p> <p>3 A strength and weakness in method(s) used identified</p>	15	<p>Max 12 for RPD</p> <p>To be awarded marks for flows (F) the flows must come from and go to correct people.</p> <p>Max 3 for evaluation (AO4)</p>

Tasks 2 and 3 Examples SEE ATTACHED SHEETS

Task 2



Task 3



Task		Answer	Marks	Guidance
3		<p>1 mark for:</p> <ul style="list-style-type: none"> start and end defined correct decision with labels (max 2) each process (max 3) consistent notation correct mathematical logic correct logic of order of processes arrows on all flow lines 	10	
4		<p>1 mark available for each of:</p> <ul style="list-style-type: none"> • Stock item / number • Number in stock • Minimum stock level • Number to be ordered • Use of colour/font/white space • Logical order of information • Identification of Hats and Things • All data/information shown is appropriate with no omissions/extra data required 	5	<p>1 mark available for each – Max 5</p> <p>Do not accept pre-populated/examples of completed on-line form.</p> <p>First four required plus any one other</p>

SECTION A

NOTE: HAT = Hats and Things

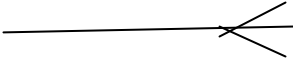

Question		Answer	Marks	Guidance	
1		To increase the security of information (1 st) held on the computers (1). To produce reports for the owner (1 st) example of report (1)	4	2 from list given Max 2 per description	
2	a	What the end-user wants the system to do (1)	1	Correct Answer Only	
	b	Able to access the stock system (1) to access supplier details number (1) Unique supplier number (1) to access supplier contact details (1)	4		
	c	The limitations (defined by the end-user) (1 st) relating to hardware/software/programming language/integration (1)	2		
	d	: Must be compatible with the payments system (1) to enable existing supplier details to be imported (1) Enable stock levels to be checked (1) by office staff (1) Whilst stock levels being updated (1) no other amendments to system by any other user (1)	2	1 from list given	
3	a	Implemented over a Bank Holiday weekend (1st) Starting after 5pm on the Friday (1) Ending before 9am on the Tuesday (1) when HAT is closed/ to minimise disruption (1)	4		
	b	i	Budget	1	Correct Answer Only

Question			Answer	Marks	Guidance
	b	ii	£20000 (1) to cover hardware, software development and staff/stock manager training (1)	2	To be awarded marks for this part of the question b(i) must be correct
4			Stock records manually updated (1) so may not be accurate (1) Incorrect stock records (1) can lead to stock not being ordered (1)	4	

Question	Answer	Marks	Levels of Response
5	<p>Answers may include:</p> <p>Advantages Available immediately Large choice of software Users may, if used software from the vendor previously, be familiar with format / screen layouts / commands Support for new peripherals available through patches Will have been tested previously by large groups of users</p> <p>Disadvantages Licences may be expensive May not fully meet the required purpose Will have many unnecessary features not used taking up memory space Large memory footprint</p> <p>Examples HAT do not have to allocate a large budget for software, as OTS is cheaper to purchase Less time/money spent on staff training OTS software may not be totally applicable to holding stock records/making bookings HAT do not own the OTS software so may be unable to tailor it to fully meet their future business needs</p>	12	<p><i>Band Mark Range</i></p> <p><i>H 9 – 12</i> Candidates will show a clear understanding of the question and include a detailed evaluation, including the advantages and disadvantages of using OTS software. The evaluation will be balanced</p> <p>Examples will relate to HAT</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><i>M 5 – 8</i> Candidates will show an understanding of the question. An evaluation including the advantage(s) and disadvantage(s) of using OTS software will given. Evaluation may be limited or one sided.</p> <p>Some examples given relate to HAT</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><i>L 1 – 4</i> Candidates will demonstrate a limited understanding of the question. Information may be a list of points, with little or no explanations.</p> <p>Examples, if given, may not relate to HAT</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> <p><i>0 – Answer not worthy of credit</i></p>

Question		Answer	Marks	Guidance
6		<p>Advantages: Effects of environment in warehouse (1st) can be assessed (1) Potential to experience first-hand (1) all aspects of tasks carried out (1) Workloads / methods of working / delays / bottlenecks (1) can be identified (1)</p> <p>Disadvantages: Stock Manager may put on a performance (1) and not work as they usually do (1) Can be time consuming (1) and costly (1) Problems may not occur (1) during observation (1) May not see all tasks (1) usually carried out by the Stock Manager (1)</p>	6	Max 2 per description 2 advantages Max 4 1 disadvantages Max 2
7	a	The old <u>and</u> new systems (1st) are run together (1)	2	
	b	If there is a problem with the new system (1) HAT can still use the manual/legacy system / no detrimental effect on the business (1)	2	
8		Adaptive (1 st) The system must be adapted (1) it does not need to be rewritten (1) usually completed through additions to code/macros (1)	4	

Section B

Question		Answer	Marks	Guidance
9		Operating procedures (1) User manuals (1) Test plans, data and logs (1) Security details (1) Version details (1)	2	2 from list
10	a	eg Layout is structured (1) able to get an overview of the processes/documentation which are involved (1) Standard set of symbols are used (1) can be read/understood by people who did not create the diagram (1)	4	Max 2 per advantage
10	b	Entity Primary Key Foreign Key	2	1 mark each, Max 2
10	c	<p>M:1 / 1:M </p> <p>1:1 </p>	4	Max 2 per relationship Relationship symbol must be labelled correctly to be awarded label mark.

Question	Answer	Marks	Levels of Response
11	<p>Answers may include:</p> <p>Description A diagrammatical way of representing the flow of data/information in a system Generally accepted as DFD's</p> <p>Advantages Analyst is able to clearly break down the system under investigation Diagrams can be easier for specialists/developers 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 May be difficult for clients to understand</p>	8	<p>Band</p> <p><i>H</i> 6 – 8 Candidates will show a clear understanding of the question and include detailed evaluation including the advantages and disadvantages to a systems analyst of formal methods of modelling data. Evaluation will be balanced. 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><i>M</i> 3 – 5 Candidates will show an understanding of the question and include an evaluation including the advantage(s) and disadvantage(s) to a systems analyst of formal methods of modelling data.</p> <p>Evaluation may be limited or one-sided. 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><i>L</i> 1 – 2 Candidates will demonstrate a limited understanding of the question. Information may be a list of advantages or disadvantages, with little explanation. 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> <p><i>O</i> – Answer not worthy of credit</p>

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