1. A supermarket uses a stock control system.

    Details of products are stored on a stock database.

    Explain how the system used in the supermarket can control the quantity of tins of beans in stock so that the chance of running out is minimised.

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2.   * A company enforces standard rules about writing functions on its programmers. Discuss the reasons why this might be the case.

-- **[9]**

END OF QUESTION PAPER

Question			Answer/Indicative content	Marks	Guidance
1			- Barcode of item purchased is read at checkout / it is scanned in - Barcode is compared with barcodes stored on stock file (Field containing) number of tins of beans is decremented - New value is compared with the field containing the minimum number of tins of beans that are allowed - If number of tins in stock is less than minimum stock / value is below limit… …and no order is outstanding for this item… …search supplier file for details of supplier and use these details either to place an order automatically or produce report for manager - Set field showing outstanding order - When order arrives, number in stock (field) is incremented	6	Note: This is intended to be a difficult question. Mark points need to be fairly precise – do not read too much into a response **Examiner's Comments** There were some comprehensive responses here, while many good answers were spoiled because the process described did not consider the need to avoid automatically ordering more tins after every tin is sold. Few were unable to earn some credit even if it was only for scanning the tins when sold. This proved to be an excellent discriminator question. This question was an ideal question to be answered as a series of numbered points, answering in this way could have helped some candidates arrange their thoughts in what is a sequential process.
			Total	**6**	
2			* Mark Band 3–High Level (7–9 marks) The candidate demonstrates thorough knowledge and understanding of reasons why Nobugs enforces standard rules about writing functions on its programmers; the material is generally accurate and detailed. The candidate is able to apply their knowledge and understanding directly and consistently to the context provided. Evidence / examples will be explicitly relevant to the explanation. The candidate provides a thorough discussion which is well-balanced. Evaluative comments are consistently relevant and well-considered. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* Mark Band 2–Mid Level (4–6 marks) The candidate demonstrates reasonable knowledge and understanding of reasons why Nobugs enforces standard rules about	9	AO1: Knowledge and Understanding The following is indicative of possible factors / evidence that candidates may refer to but is not prescriptive or exhaustive: - No function may be longer than a single page of code: this is to reduce complexity and aid readability. - Variable identifiers must conform to a standard convention: this helps others to understand the code and reduces the likelihood of duplication, makes maintenance easier. - Each function must have a single entry point: this reduces complexity and makes the search for any bugs more straightforward. - Variables must not be set up outside the scope of a function: this sets a limit on where to look for bugs and reduces the likelihood of a problem spread across many modules. AO2.1: Application The selected knowledge / examples should

Question			Answer/Indicative content	Marks	Guidance
			writing functions on its programmers; the material is generally accurate but at times underdeveloped. The candidate is able to apply their knowledge and understanding directly to the context provided although one or two opportunities are missed. Evidence / examples are for the most part implicitly relevant to the explanation. The candidate provides a reasonable discussion, the majority of which is focused. Evaluative comments are for the most part appropriate, although one or two opportunities for development are missed. *There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.* Mark Band 1–Low Level (1–3 marks) The candidate demonstrates a basic knowledge of reasons why an organisation enforces standard rules about writing functions on its programmers with limited understanding shown; the material is basic and contains some inaccuracies. The candidate makes a limited attempt to apply acquired knowledge and understanding to the context provided. The candidate provides a limited discussion which is narrow in focus. Judgments if made are weak and unsubstantiated. *The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.* 0 marks No attempt to answer the question or response is not worthy of credit.		be directly related to the specific question. The following is indicative of possible factors / evidence that candidates may refer to but is not prescriptive or exhaustive: • Explanation of how the standard rules for programming would impact upon the choices made for using functions and variables and how they are addressed. • Discussion around the use of different functions and variables that are dependent, independent or interdependent. AO3.3: Evaluation Candidates will need to consider a variety of viewpoints in relation to following standard rules for functions and variables while developing management software and will make evaluative comments about the issues and solutions they are discussing e.g. • Why using functions longer than one page of code will increase complexity? • Why hardware-specific code must be avoided? • Why variables must not be setup outside the scope of a function? • How a single entry point reduces complexity and makes the search for any bugs more straightforward? • What will happen if embedded documentation is not adequate?
			Total	9	