7 Algorithm design and problem-solving – Systems Design
ANSWERS

Question	Answer	Marks
5(a)	One mark for each point (max two) • simplifying the problem • removing unnecessary details from the problem // selecting elements required • filtering out irrelevant characteristics from those elements	2
5(b)	One mark for each point (max three) • inputs • processes • outputs • storage	3
5(c)	One mark for stage, one mark for matching description (max two) • design (1) details of solution set out (1) • coding (1) program is developed (1) • testing (1) program is tested for errors (1)	2

Question	Answer	Marks
1(a)	**One** mark for each correct line. **Program development life cycle description** — **Program development life cycle stage** develop an algorithm to solve the problem using structure diagrams, flowcharts or pseudocode → design detect and fix the errors in the program → testing identify the problem and its requirements → analysis write and implement the instructions to solve the problem → coding evaluation	4
1(b)	**One** mark for naming or describing each component part, max **three** **For example:** inputs // what is put into the system processes // actions taken to achieve a result outputs // what is taken out of the system storage // what needs to be kept for future use	3

Question	Answer	Marks
1	**A**	1

Question	Answer	Marks
3	**One** mark for each correct answer • structure diagram / chart • flowchart • pseudocode	3

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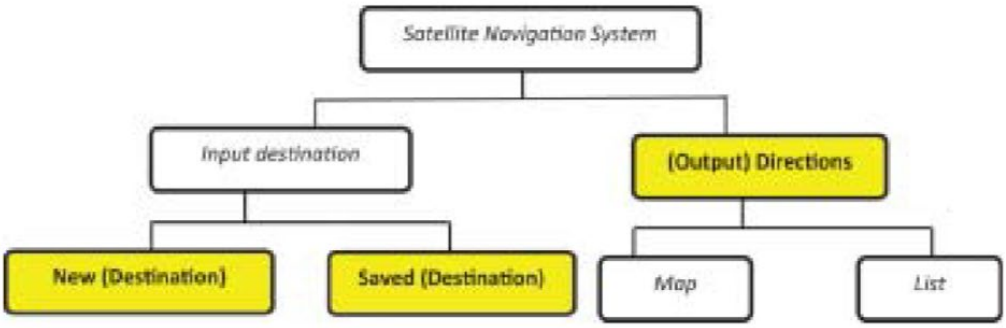
Question	Answer	Marks
3	Must match question. 2 marks for three suitable sub system names 1 mark for two suitable sub system names 	2

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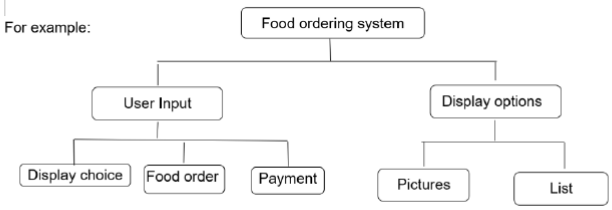
Question	Answer	Marks
5	**One** mark for a suitable hierarchical structure **One** mark for suitable names for the sub systems for user input and display options **One** mark for sub systems for user inputs, (choice of display,) food order and payment **One** mark for sub systems for display output types, pictures and list 	4