

1	1 mark for 2 or 3 correctly connected verification method boxes, 2 marks for all 4 correct Verification Method Use <pre> graph LR subgraph Verification_Method [Verification Method] PBC[Parity byte check] CS[Checksum] VC[Visual check] PBL[Parity block check] end subgraph Use [Use] DT[Data transfer] DE[Data entry] end PBC --- DT CS --- DT VC --- DE PBL --- DT PBL --- DE </pre>
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6(a)	Number: Any number where the first two digits sum to 5 / 15 and the last three digits are 623 Explanation: The remainder is the same / 3 // The sum of the (first four) digits is the same / 13
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6(b)	Example solution – conversion of Number to a string <pre> FUNCTION Generate (Number : INTEGER) RETURNS INTEGER DECLARE Total, Index, CheckDigit : INTEGER DECLARE NumString : STRING Total ← 0 NumString ← NUM_TO_STR(Number) FOR Index ← 1 TO LENGTH(NumString) Total ← Total + STR_TO_NUM(MID(NumString, Index, 1)) NEXT Index CheckDigit ← Total MOD 10 Number ← Number * 10 + CheckDigit // NumString ← NumString & NUM_TO_STR(CheckDigit) RETURN Number // STR_TO_NUM(NumString) ENDFUNCTION </pre> Mark as follows: 1 Function heading, parameters return type and ending 2 Initialise Total 3 Convert Number to a string and loop for length of converted Number 4 attempt to form sum of digits in a loop 5 completely correct sum of digits in a loop 6 Calculate CheckDigit 7 Add CheckDigit to original number multiplied by 10 and return number // Convert CheckDigit to a character and appended to NumString and then convert to a number and return
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6(b)	Example Solution – no conversion to string <pre> FUNCTION Generate (Number : INTEGER) RETURNS INTEGER DECLARE Total, CheckDigit, Remainder, Num: INTEGER Num ← Number Total ← 0 WHILE Num > 0 Remainder ← Num MOD 10 Num ← Num DIV 10 Total ← Total + Remainder ENDWHILE CheckDigit ← Total MOD 10 Number ← Number * 10 + CheckDigit RETURN Number ENDFUNCTION </pre> Mark as follows: 1 Function heading, parameters return type and ending 2 Initialise Total 3 Loop while Num > 0 4 attempt to use MOD and DIV to sum successive digits in Number 5 completely correct sum of digits 6 Calculate CheckDigit 7 Add CheckDigit to original number and return number
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