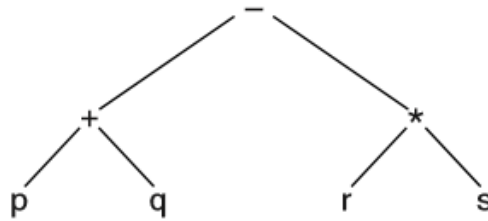


“3-a-day” A-Level Exam Practice Unit 1 (005)

Question 1

7 (a) The diagram shows an algebraic expression written on a data structure.



(i) State the type of data structure shown.

..... [1]

Question 2

(d) (i) Describe a queue data structure.

.....
.....
.....
..... [2]

(ii) State **two** uses of a queue in a computer system.

1.
.....
2.
..... [2]

Question 3

(iii) State what validation must be done before adding a new data item to a queue.

.....
..... [1]

(iv) State what validation must be done before removing a data item from a queue.

.....
..... [1]

Answer 1

7	(a)		• (Binary) tree.	1
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Answer 2

	(d)	(i)	<ul style="list-style-type: none"> • first in, first out/FIFO/data items are added at one end & removed from the other • two pointers are required 	2	Allow a diagrammatic answer Allow one pointer with length of queue
		(ii)	<ul style="list-style-type: none"> • Eg spool queue/jobs waiting for printer • job queue in batch processing system • Handling of jobs in a round robin system 	2	

Answer 3

		(iii)	• check that queue is not already full	1
		(iv)	• check that queue is not empty	1