GATE CS 2014

An operating system uses the Banker's algorithm for deadlock avoidance when managing the allocation of three resource types X, Y, and Z to three processes P0, P1, and P2. The table given below presents the current system state. Here, the Allocation matrix shows the current number of resources of each type allocated to each process and the Max matrix shows the maximum number of resources of each type required by each process during its execution.

	ALLOCATION			MAX		
	X	Y	Z	X	Y	Z
P0	0	0	1	8	4	3
P1	3	2	0	6	2	0
P2	2	1	1	3	3	3

There are 3 units of type X, 2 units of type Y and 2 units of type Z still available. The system is
currently in a safe state. Consider the following independent requests for additional resources in the
current state:
REQ1: P0 requests 0 units of X,
    0 units of Y and 2 units of Z
REQ2: P1 requests 2 units of X,
    0 units of Y and 0 units of Z
Which one of the following is TRUE?
(A) Only REQ1 can be permitted.
(B) Only REQ2 can be permitted.
(C) Both REQ1 and REQ2 can be permitted.

(D) Neither REQ1 nor REQ2 can be permitted

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