

Q36. The table shows the priorities of five tasks A to E. When each task is independently executed, the processing sequences and times associated with CPU and I/O devices are also shown in the table. Which of the tasks B to E should be combined together with task A assigned a “high” priority so that there may be no idle time of CPU from starting of execution of the combined tasks to ending of both tasks? Here, I/O operations never conflict with each other, and any overhead involved in the OS can be ignored. The number in parentheses denotes each processing time.

	Task	Priority	Processing sequence and time (in milliseconds) during independent execution
	A	High	CPU (3) → I/O (3) → CPU (3) → I/O (3) → CPU (2)
a)	B	Low	CPU (2) → I/O (5) → CPU (2) → I/O (2) → CPU (3)
b)	C	Low	CPU (3) → I/O (2) → CPU (2) → I/O (3) → CPU (2)
c)	D	Low	CPU (3) → I/O (2) → CPU (3) → I/O (1) → CPU (4)
d)	E	Low	CPU (3) → I/O (4) → CPU (2) → I/O (5) → CPU (2)