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Part a:

~~Part a:~~ O: system is operating normally

K: the kernel is functioning

M: system is in multuser state

I: the system is in interrupt mode

Part b:

1) If the system is operating normally,
the kernel is functioning

$$O \rightarrow K$$

2) The system is in ~~multuser~~ multuser
state ~~only if~~ if and only if
it is operating normally

$$M \leftrightarrow O$$

3) The kernel is not functioning or the
system is in interrupt mode.

$$\neg K \vee I$$

3) If the system is not in
multuser state, then it is in
interrupt mode.

$$\neg M \rightarrow I$$

5) The system is not in interrupt
mode.

$$\neg I$$

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Part c: Since there is no row that ~~has~~ is all true, the system is inconsistent

O	K	M	I	$O \rightarrow K$	$M \leftrightarrow O$	$\neg M \rightarrow I$	$\neg K \vee I$	$\neg I$
T	T	T	T	T	T	T	T	F
F	T	T	T	T	F	T	T	F
T	F	T	T	F	T	T	T	F
F	F	T	T	T	F	T	T	F
T	T	F	T	T	F	T	T	F
F	T	F	T	T	T	T	T	F
T	F	F	T	F	F	T	T	F
F	F	F	T	T	T	T	T	F
T	T	T	F	T	T	T	F	T
F	T	T	F	T	F	T	F	T
T	F	T	F	F	T	T	T	T
F	F	T	F	T	F	T	T	T
T	T	F	F	T	F	F	F	T
F	T	F	F	T	T	F	F	T
T	F	F	F	F	F	F	T	T
F	F	F	F	T	T	F	T	T