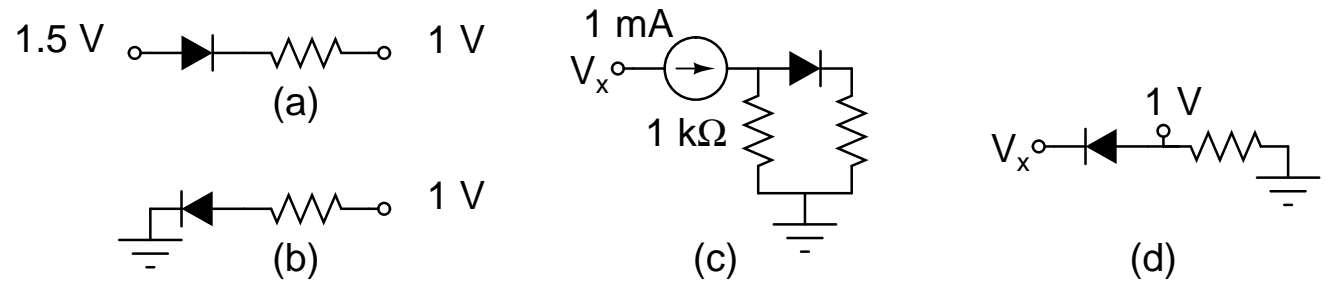


NAME

UCID

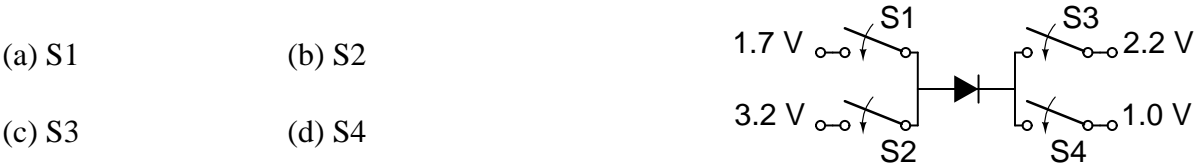
1. Answer all four questions. Maximum mark is 18.
2. For multiple-choice questions, circle the correct answer. There may be more than one correct answer, in which case circle all correct answers.
3. Show your work as much as possible, within time and space constraints.
4. Only this one sheet of paper will be collected and graded

1. Study the 4 circuits shown below. Fill in the table below the circuits to show which diodes are forward biased, which are reverse biased and which could be either. Treat all marked node voltages as voltage sources. Diode cut-in voltage is 0.6 V (2 marks)

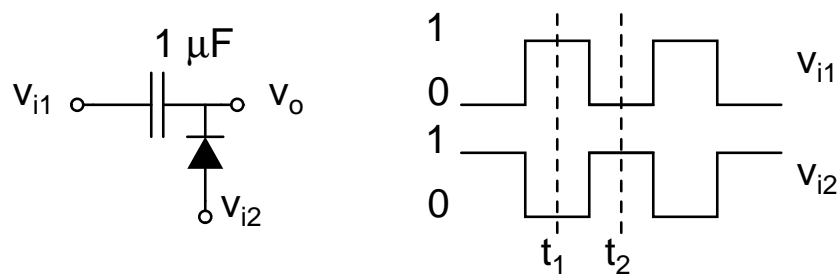


	Forward bias	Reverse bias	It depends
(a)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(b)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(c)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(d)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. For the circuit below, which switch or switches must be turned on to apply a 1-V forward bias? Diode cut in voltage is 0.7 V (2 marks)



3. For the circuit below, v_{i1} and v_{i2} are square waves between 0 and 1 V as shown. Diode cut-in voltage is 0.3 V. Find $v(t_2)$. (2 marks)



4. In the circuit below, both diodes have a cut-in voltage of 0.5 V. Find v_o . (12 marks)

