Question #1 (from one of the groups)

		1	6	6	3
Fair	1	1 * 0.95 * .1667 + 0 * 0.1 * .1667 = 0.1584	0.1584 * 0.95 * .1667 + 0.005 * 0.1 * .1677 = 0.0252	0.0252 * 0.95 * .1667 + 0.00846 * 0.1 * .1667 =0.00413	0.00413 * 0.95 * .1667 + 0.004437 * 0.1 * .1667 =0.000728
LOADED	0	1 * 0.05 * 0.1 + 0 * 0.90 * 0.1 = 0.005	0.1584 * 0.05 * 0.5 + 0.01 * 0.90 * 0.5 = 0.00846	0.0252 * 0.05 * 0.5 + 0.00846 * 0.90 * 0.5 = 0.004437	0.00413 * 0.05 * 0.1 + 0.004437 * 0.90 * 0.1 = 0.000420
Observation:	**0**	**1**	**2**	**3**	**4**

- P(1663|M) = 0.000728 + 0.000420 = 0.001148

Question #2

State		6	6	1
Fair	1	1 * 0.95 * 0.1667 (F) 0 * 0.1 * 0.1667	0.1584 * 0.95 * 0.1667 (F) 0.025 * 0.1 * 0.1667	0.02508 * 0.95 * 0.1667 (F) 0.01125 * 0.1 * 0.1667
Loaded	0	1 * 0.05 * 0.5 0 * 0.9 * 0.5	0.1584 * 0.05 * 0.5 0.025 * 0.9 * 0.5	0.0251 * 0.05 * 0.1 0.01125 * 0.90 * 0.1
Observation		t = 1	t = 2	t = 3

Most likely state sequence: FFF