Department of Economics
UNIVERSITY OF DELHI
M.A. Economics: Winter Semester 2015
Course 005 [MIEG],   Mid term 1

Maximum Marks: 12   Time: 60 minutes

1.

	H	T	S
H	1,-1	-1,1	0,0
T	-1,1	1,-1	0,0
S	0,0	0,0	$\frac{2}{3}, \frac{2}{3}$

(a) Find all pure strategy Nash equilibrium of this game.   [1]
(b) Show that there a mixed strategy Nash equilibrium where both players randomize between H and T.   [3]
(c) Does this game have any other mixed strategy Nash equilibrium?   [2]

2. A monopolist (M) faces a sequence of two entrants - E_1 in period 1 and E_2 in period 2. Entrants live for only one period while the monopolist plays in both the period. Payoffs in each period are as follows. If an entrant decides to stay out, the monopolist earns a monopoly profit Π^M, and the entrant earns 0. If an entrant decides to enter, the monopolist can either choose to 'fight' or 'accommodate' the entrant. If the former, payoff is 0 to M and $-I$ to the entrant. If the latter, payoffs are Π^D each. Period 2 entrant E_2 observes the outcome of period 1. Assume that (i) $\Pi^M > \Pi^D > 0 > -I$ and (ii) M does not discount future utility (that is $\delta = 1$).

(a) Identify the strategy set of E_2.   [1]
(b) Show that there is a Nash equilibrium of this game where the monopolist chooses 'fight' after every entry.   [1]
(c) Explain: 'Commitment problem' of the monopolist in this game.   [2]

3. Find subgame perfect equilibrium of finitely repeated (T period) 'offer-counteroffer' bargaining game where each player incurs a cost c ($1 > c > 0$) for every period in which agreement is not reached. Suppose that T is even and player 1 makes the first offer.   [2]