Department of Economics
UNIVERSITY OF DELHI
M.A. Economics: Winter Semester 2016
Course 005 [MIEG], Mid term 1

Maximum Marks: 15 Time: 60 minutes

Instructions

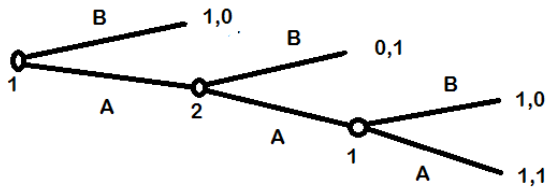
Write your examination roll number. Please DO NOT write your name on the answer booklet.

1.

	A	B	C
A	3,2	1,0	1,1
B	0,1	2,3	1.5,1.5
C	1,1	0,0	0.7,0.7

(a) Show that the row player has a strictly dominated strategy. [1]
(b) Show that strategy C of the column player is strictly dominated by a mixed strategy. [1]
(c) Solve it by 'iterated elimination of strictly dominated strategies'. [1]
(d) Find a mixed strategy Nash equilibrium. [2]

2. Consider the following extensive form game



(a) Write this game in strategic form. [1]
(b) Find all Nash equilibria of this game. [1]
(c) Find all SPNE. [2]
(d) Is there a Nash equilibrium of this game which is not SPNE? Explain why it is not SPNE by identifying a profitable deviation. [1]

3. Two firms, A and B, are competing in a market, which has inverse demand function $q = 1 - p$. The game is as follows

At stage 1, Firm A, the incumbent, chooses a price. In stage 2, Firm B, chooses either to enter or to stay away from the market. If B enters, it pays a lump-sum entry fee, $c = 0.09$, and then chooses a price. If B stays away, the game ends and payoffs are realized.

If B enters and the firms set different prices, then all consumers purchase the good from the firm with the lowest price, which produces enough output to meet this demand. If both firms set the same price, demand is equally divided. Marginal cost of production is 0.

(a) Find SPNE of this game. [3]

(b) If this game is infinitely repeated, can Firm A do better than the one-off game. Note that, at every period, Firm A chooses a price first, followed by the entry decision and price choice (in case of entry) by Firm B. Assume that the common discount factor $\delta > \frac{3}{4}$. [2]