**NRU HSE-2020, Microeconomics Class-12**

# Oligopoly

**1.** Consider an industry with N firms that compete in quantities. Firm  () spends  per unit produced. The inverse demand curve in the market is given by , where  is industry output.

**(a)** Suppose all firms choose quantities simultaneously and independently. Calculate the equilibrium outputs.

**(b)** Show that you can get an equilibrium in perfectly competitive industry as a limiting case of equilibrium found in (a).

**(c)** Find the subsidy provided to the firms in part (a) that results in efficient outcome and explain the result intuitively.

**2.** Demand for good X is *P = A – Q*, and this market is served by two firms (1 and 2) that compete by simultaneously choosing their prices. Average costs of production are constant and equal to 10 for both firms. If firm 2’s best response to a price of 35 is 20, what is the value of *A?*

**3.** Firms A and B have identical cost functions with AC=1 and compete by setting prices sequentially. Assume that firm A moves first. Firms face the following demand curves  and , correspondingly. Find the quantity produced by firm A if the equilibrium price is .