IFEEK特別演習IIA: 2018年度

Problem Set 3: Perfect Competition

Q1 . Explain following terms:

  (a) Break-even point

  (b) Marginal revenue

Q2 . State at least FOUR conditions for perfect competition. Explain each.

Q3 . Assuming perfect competition, answer the following:

  (a) Drawing a demand curve facing a firm in one diagram and another diagram for an industry market, explain how the equilibrium price is determined.

  (b) Why is the demand curve facing a firm horizontal? Explain your answer using the two diagrams in (a).

Q4 . Answer the following.

  (a) Explain how to derive the short-run supply curve of a firm.

  (b) How is it related to the industry supply curve?

Q5 . Let $TR(Y)$ and $C(Y)$ denote total revenue and total cost where Y is output.

  (a) Write profit.

  (b) State the first-order condition for profit maximization. Interpret each term (explain what each term means).

  (c) Show that $P = MR(Y) = MC(Y)$ where MR and MC are marginal revenue and marginal cost, respectively.

  (d) State the second-order condition for profit maximization. Interpret it.

Q6 . A perfectly competitive firm faces price $P = 4$ and total cost $C(Y) = Y^3 - 7Y^2 + 12Y + 5$.

  (a) Determine by using calculus the best level of output of the firm.

  (b) Find the profit at this level of output.