Please answer all the questions. Mark clearly on the Scantron Form the answer to each question. It is your responsibility to mark the answers, and the bubbles for your SSN and Names clearly. If the bubbles are not clearly marked, you may not get any credit for this quiz.

1. If a firm sells its output on a market that is characterized by a single seller and many buyers of a homogeneous product for which there are no close substitutes and barriers to long-run resource mobility, then the firm is a
   A. a monopolist.
   B. an oligopolist.
   C. a perfect competitor.
   D. a monopolistic competitor.

2. If a firm sells its output on a market that is characterized by many sellers and buyers, a differentiated product, and unlimited long-run resource mobility, then the firm is
   A. a monopolist.
   B. an oligopolist.
   C. a perfect competitor.
   D. a monopolistic competitor.

3. In the short run, a monopolist will shut down if it is producing a level of output where marginal revenue is equal to short-run marginal cost and price is
   A. greater than average total cost.
   B. less than average total cost.
   C. greater than average variable cost.
   D. less than average variable cost.

4. Which of the following is not a characteristic of monopolistic competition?
   A. Few sellers.
   B. A differentiated product.
   C. Easy entry into and exit from the industry.
   D. All of the above are characteristics of monopolistic competition.

5. A monopolist produces 14,000 units of output and charges $14 per unit. At that level of output, its marginal revenue is $8, its marginal cost is $7 and rising, its average total cost is $10, and its average variable cost is $9. The monopolist should
   A. increase output, which will result in an increase in the firm's positive economic profit.
   B. increase output, which will reduce the firm's economic losses.
   C. shut down, which will reduce the firm's economic losses.
   D. decrease output, which will result in an increase in the firm's positive economic profit.
Use the following information about Fluid Control, Inc. to answer question 6 through 8.

Fluid Controls, Inc., is a major supplier of reverse osmosis and ultrafiltration equipment, which helps industrial and commercial customers achieve improved production processes and a cleaner work environment. The company has recently introduced a new line of ceramic filters that enjoy patent protection. Relevant short run cost and revenue functions for this product are as follows,-

\[ TR = 500Q - 0.002Q^2 \]
\[ TC = 10,000,000 + 30Q + 0.0005Q^2 \]

Where, \( TR \) is total revenue, \( Q \) is output and \( TC \) is the total cost including a risk-adjusted normal rate of return on investment. Under the above scenario,-

6. Fluid Controls’ optimum short-run output would be
   a. 10,000
   b. 94,000
   c. 114,000
   d. zero, since Fluid Control will not be producing under this condition.

7. In the short run Fluid Control would set the optimum price at,-
   a. 270
   b. 300
   c. 312
   d. the question of price will not arise as the firm will no longer operate in the market.

8. The total short-run profit the firm will make is,-
   a. 0
   b. 11,090,000
   c. 12,090,000
   d. 14,090,000

Use the following information to answer question 9 & 10.

Big Apple Music, Inc., enjoys an exclusive copyright on music written and produced by the Fab Four, a legendary British rock group. Total revenue for the group’s record is given by the following function.

\[ TR = 25Q - 0.0001Q^2 \]

Marginal costs for production and distribution are stable at $10 per unit. All other costs have been fully amortized.

9. What is the short-run profit maximizing level of output for this firm?
   a. 75,000
   b. 1,000,000
   c. 2,025,000
   d. none of the above.

    a. 75,000
    b. 562,500
    c. 1,000,000
    d. will make no economic profit at all.