**Question 1.**

Consider a firm with the following demand curve p=10-q

1. Derive the total revenue curve.
2. Derive the marginal revenue curve.
3. Graph the demand and the marginal revenue curve on the same graph.

**Question 2.**

The short-run total cost curve and the marginal cost curve associated with a price taker firm in a competitive industry is given by:

1. Derive the short-run average cost curve and calculate the efficiency scale output level for which the short-run average cost is minimum.
2. Calculate the profit maximizing quantity, short-run average total cost and the profit if the market price for the product is $18.
3. Is the firm better off by shutting down its business or should continue to operate at the current output level? Explain using the concepts of fixed and variable cost.