

※ 注意：請於試卷上「非選擇題作答區」內依序作答，並應註明作答之部份及其題號。

第一部份：填充題(每格 5 分，共 50 分)

- (1) 第一部分為填充題，共有 10 個空格，每一空格 5 分；此部分不須計算過程。
- (2) 答題不要求任何計算過程，只依答案格內的答案對錯給分。
- (3) 如果沒有特別指示，請將答案約分至「最簡分數」表示，否則不予計分。
- (4) 請在答案卷中以下列格式作答：

|       |       |       |       |        |
|-------|-------|-------|-------|--------|
| 第 1 格 | 第 2 格 | 第 3 格 | 第 4 格 | 第 5 格  |
|       |       |       |       |        |
| 第 6 格 | 第 7 格 | 第 8 格 | 第 9 格 | 第 10 格 |
|       |       |       |       |        |

1. The demand for Christmas trees depends on how white Christmas is and is given by  $P = 20 - \frac{1}{2}Q + u$ , where  $Q$  equals the Christmas tree harvest;  $P$  is the price. The tree harvest always equals 30. The random variable  $u$  takes on the values of  $+2, 0, -2$  with probabilities  $\frac{1}{4}, \frac{1}{2},$  and  $\frac{1}{4}$ , respectively. The total revenue ( $TR$ ) is defined as:  $TR \equiv P \cdot Q$ . The expected value of price,  $E(P) = \underline{(1)}$ . The expected value of total revenue,  $E(TR) = \underline{(2)}$ . The variance of total revenue,  $Var(TR) = \underline{(3)}$ . The correlation coefficient between  $TR$  and  $P$ ,  $\rho(TR, P) = \underline{(4)}$ .
2. In a competitive but regulated agricultural market, the price of output is \$10 per unit, a farm has the constant marginal cost of \$2 per unit, and there is an output quota of 100 units. Then, the shadow price of the output quota is  $\underline{(5)}$ . Suppose that all farmers have identical marginal costs. If the farmer wishes to sell his output quota, the farmer can ask \$  $\underline{(6)}$  (the maximum value) for his output quota.
3. Suppose retail output ( $Q_r$ ) is specified as a proportion of farm output ( $Q$ ):  $Q_r = \frac{4}{5}Q$ . There are 100 perfectly competitive marketing firms. The representative marketing firm's total variable cost ( $TVC$ ) function for marketing services is given by:  $TVC = \frac{1}{5}q + \frac{1}{5}q^2$ , where  $q$  measures marketing services produced. Total fixed cost per firm equals 20. The retail demand is:  $P_r = 1000 - \frac{1}{2}Q_r$ , where  $P_r$  is the price at retail. Then, the average variable cost function for the industry is  $\underline{(7)}$ . If  $Q = 1500$ , the equilibrium values for  $P_r = \underline{(8)}$ , the marketing margin  $(\frac{4}{5}P_r - P) = \underline{(9)}$ , where  $P$  is the price at farm level, and the marketing firm's profit  $\pi = \underline{(10)}$ . [Hint: The marketing firm's profit function may be written as:  $\pi = (\frac{4}{5}P_r - P)q - TVC - 20$ , where  $TVC$  equals the cost of marketing services and  $(P \cdot q)$  equals the outlay on the raw material purchased from farmers.]

見背面

**第二部份：問答題(50 分)**

4.(30%)請回答下列與稻米雙軌制相關議題。

- (1)(4%)實施稻米雙軌制的背景。
- (2)(6%)稻米雙軌制的內容。
- (3)(10%)分析採行稻米雙軌制對國內稻米的產量、市場價格等之影響。
- (4)(10%)實施稻米雙軌制面對的挑戰。

5.(20%)請回答以下世界貿易組織(WTO)相關議題。

- (1)(9%)WTO 農業談判主要議題大致可分成哪三類，試簡述之。
- (2)(5%)關稅配額、休耕補貼、出口協助、保價收購、食品安全檢驗與動植物防疫檢疫措施分別屬於以上三類議題中哪一類？
- (3)(6%)上述三類議題各國最主要的攻防在哪一類？理由為何？

**試題隨卷繳回**