33. Yield management can be used to address all of the following problems except
a. overbooking
b. portioning demand into fare classes
c. single order quantities
d. master production scheduling
(Medium)

34. The following information relates to a company's aggregate production planning activities:

Quarter	Demand Forecast
1	75,000
2	100,000
3	75,000
4	125,000

Beginning Workforce = 35 workers
Production per Employee = 1,250 units per quarter
Hiring Cost = $500 per worker
Firing Cost = $1,000 per worker
Inventory Carrying Cost = $20 per unit per quarter

If a chase demand strategy is used then the number of workers hired at the start of quarter 2 would be
a. 10
b. 20
c. 35
d. 80
(Hard)

35. The following information relates to a company's aggregate production planning activities:

Quarter	Demand Forecast
1	75,000
2	100,000
3	75,000
4	125,000

Beginning Workforce = 35 workers
Production per Employee = 1,250 units per quarter
Hiring Cost = $500 per worker
Firing Cost = $1,000 per worker
Inventory Carrying Cost = $20 per unit per quarter

If a chase demand strategy is used then the total firing cost for the plan would be
a. $10,000
b. $15,000
c. $20,000
d. $25,000

1	75,000
2	100,000
3	75,000
4	125,000

Beginning Workforce = 35 workers
Production per Employee = 1,250 units per quarter
Hiring Cost = $500 per worker
Firing Cost = $1,000 per worker
Inventory Carrying Cost = $20 per unit per quarter

If a level production strategy is used then the inventory at the end of quarter 3 would be

a. 18,750
b. 12,500
c. 25,650
d. 31,250 units
(Hard)

39. The following information relates to a company's aggregate production planning activities:

Quarter	Demand Forecast
1	75,000
2	100,000
3	75,000
4	125,000

Beginning Workforce = 35 workers
Production per Employee = 1,250 units per quarter
Hiring Cost = $500 per worker
Firing Cost = $1,000 per worker
Inventory Carrying Cost = $20 per unit per quarter

If a level production strategy is used then the cost of the level production plan (inventory costs plus hiring and firing costs) would be

a. $20,000
b. $645,000
c. $1,250,000
d. $1,270,000
(Hard)

40. A company is developing a linear programming model for its aggregate production plan. If I_t = units in inventory at the end of period t, P_t = units produced in period t, and D_t = demand in period t, then the company's demand constraint to ensure that demand is met in quarter 3 would be

a. $D_3 = I_2 - I_3 + P_3$
b. $D_3 = I_3 + P_3$
c. $D_3 = I_3 - I_2 + P_3$
d. $D_3 = I_2 - I_3 + P_2$

(Medium)

41. A company is developing a linear programming model for its aggregate production plan. If W_t = workforce size for period t, H_t = number of workers hired for period t, and F_t = number of workers fired for period t, then the company's workforce constraint for period 2 would be

a. $W_2 = W_1 + F_2 - H_2$
b. $W_2 = H_2 - F_2$
c. $W_2 = W_1 + H_2 - F_2$
d. $W_2 = H_2 - F_2 - W_1$

(Medium)

42. A company is developing a linear programming model for its aggregate production plan. If I_t = units in inventory at the end of period t, P_t = units produced in period t, and D_t = demand in period t, then the company's demand constraint to ensure that demand is met in quarter 2 would be

a. $D_2 = I_2 - I_1 + P_2$
b. $D_2 = I_1 + P_2$
c. $D_2 = I_2 + I_1 + P_2$
d. $D_2 = I_1 + P_2 - I_2$

(Medium)

43. A company is developing a linear programming model for its aggregate production plan. If W_t = workforce size for period t, H_t = number of workers hired for period t, and F_t = number of workers fired for period t, then the company's workforce constraint for period 4 would be

a. $W_4 = W_3 - H_4 + F_4$
b. $W_4 = W_3 + H_4 - F_4$
c. $W_4 = W_3 + H_3 - F_3$
d. $W_4 = W_3 + H_4$

(Medium)

44. A company is developing a linear programming model for its aggregate production plan. Each worker can produce 500 units per quarter. If W_t = workforce size in period t and P_t = number of units produced in period t, then the production constraint for period 3 would be

a. $W_3 = 500P_3$
b. $P_3 = W_3 - 500$
c. $P_3 = 500W_3$
d. $P_3 = W_3/500$

(Medium)

45. Which of the following statements concerning pure and mixed strategies for production planning is true?

a. pure and mixed strategies are difficult to evaluate
b. pure strategies are always optimal but mixed strategies rarely are