ACCTG 211 – Final Exam – Practice Exam Solutions

1. **D** – The purchase of new testing equipment for ensuring the quality of the watches because this cost is only incurred if the company goes forward with producing the watches.

2. **B** – Negative $5,800

   VC per unit = $0.24 + $0.14 + $0.22 = $0.60

   CM per unit = $0.70 – $0.60 = $0.10

   Operating profit = 50,000($0.10) – $10,800 = –$5,800

3. **C** – They are unchanged because unavoidable fixed costs do not go away when a segment is dropped.

4. **A –** Note that we include the fixed costs in this calculation because they are traceable to the project which means we only incur them if we accept the project. If it said that our fixed costs would be the same if we accepted or rejected the project, we would not include the fixed costs in the calculation.

   Revenue = $9 x 20,000 = $180,000

   Total Costs= [($2 + $3) x 20,000] + $75,000= 175,000

   Profit = $180,000- $175,000= $5,000

5. **B -** This is a relevant cost since it differs between two alternatives. Any cost that does not differ between alternatives or is considered a sunk cost is considered irrelevant.

6. **D -** This is a sunk cost because it has already been incurred and will not be relevant when making a decision.

7. **A**

   Machine A's relevant costs= 14,000 + 500= 14,500

   Machine B's relevant costs= 13,500 + 1,250= 14,750

8. **B** – Emphasizes the amount of income earned over the life of the project

9. **C**

   Full product cost = ($2)(1 mil) + $1.8 mil = $3.8 mil

   Desired profit = $7 mil x 0.20 = $1.4 mil

   Cost-plus price = $3.8 mil + $1.4 mil = $5.2 mil

   Per unit price = $5.2 mil / 1 mil = $5.20

10. **B**

    Variable Manufacturing Cost Per Unit = $36,000 / 12,000 units = $3

    Profit = ($12 - $3) x 1,000 = $9,000

11. **D**

    Incremental revenue per unit = $12.50
    Incremental cost per unit = $2DM + $5DL + $3VOH + $.50 additional VC = $10.50

    Incremental profit per unit = $12.50 - $10.50 = $2
    Total profit = $2 x 2,000 units = $4,000

12. **B**

    Revenue at market price = $12 x 300,000 = $3.6 mil

    Desired profit = $10 mil x 0.08 = $0.8 mil

    Full target cost = $3.6 mil - $0.8 mil = $2.8 mil

13. **A**

    Actual cost = ($7)(300,000) + $200,000 = $2.3 mil

14. **A** – We want to produce the product with the highest CM per machine hour.

15. **D** – The only thing that will not change if we drop this product line is the $15,000 in unavoidable fixed costs. Thus, this company should keep this product line even though it is showing a $5,000 operating loss.

16. **B**

17. **C**

    Standard CM per hour = $11 x 100 units = $1,100 per hour
    Deluxe CM per hour = $13 x 55 units = $715 per hour

    Since we have unlimited demand we will produce all standard units

    Total CM = $1,100 per hours x 1,000 hours = $1,100,000

18. **A**

    Segment margin divisions 1 and 3 = $2,500 + $5,000 = $7,500

    Net income = $7,500 - $2,000 = $5,500

19. **B**

    New CM division 3 = $8,000 – ($8,000 x .3) = $5,600
    Segment margin division 3 = $5,600 - $3,000 = $2,600

    Segment margin division 1 and 3 = $2,500 + $2,600 = $5,100
    Net income = $5,100 - $2,000 = $3,100

20. **A**

    Total segment margin w/o division 2 = $2,500 + $5,000 = $7,500
    Net Income = $7,500 - $2,500 - $2,000 = $3,000

21. **A**

    Cost to buy = $6

    Cost to make = $3 + $3 + $1

22. **B**

    Direct costs = $3 + $3 = $6
    Mark up = $6 x 1.20 = $7.20

23. **C**

Make = ($10 + $15 + $8)(35,000) = $1,155,000

Buy = ($30)(35,000) = $1,050,000

Buying will save you $105,000 if you buy the goods from the outside company. Note that we did not need to include the $420,000 in fixed overhead because it is an irrelevant cost. We consider it to be an irrelevant cost because our company will have this cost it is makes or buys the widgets so we do not need to include it in our calculations; however, if you did you would still get the same answer because you would just add $420,000 to the cost of making and buying so the difference would be the same.

24. **C**

We need to compare the incremental revenue to the incremental cost of processing further to determine if we should sell as is or process further:

A incremental revenue = $20
A incremental cost = $30
***Sell A as is**

B incremental revenue = $30
B incremental cost = $10
***Process B further**

25. **D**

Cost of making = $2,000 + $3,000 + $1,000 + $8,000 = $14,000

Cost of buying = $9,000 + ($8,000 - $5,000) = $12,000

*** When we buy the packets we will not incur the direct materials, direct labor or variable MOH expenses because we are not making the packets; however, we will still have $3,000 in fixed overhead expenses ($8,000 - $5,000) because the problem says we only save $5,000 in fixed costs.**

Increased profit from buying = $2,000

26. **C**

The most we would be willing to pay to buy the packets is the total of the amount it would cost us to make them ourselves:

$14,000 = Price paid to printer + $3,000
Price paid to printer = $11,000

27. **B**

Unrefined sales = $50 x 63,000 = $3,150,000
Unrefined profit = $3,150,000 - $2,200,000 = $950,000

Net refined sales price = $75 - $5 - $2 = $68
Refined sales = $68 x 54,000 = $3,672,000
Refined profit = $3,672,000 - $2,200,000 = $1,472,000

Profit increase = $1,472,000 - $950,000 = $522,000

28. **B** – Cost incurred after the split-off point

29. **C**

The payback period is defined as the amount of time that is required for a company to receive cash flows equal to that of the amount of the investment. In this case, the company receives $675 in cash flows its first three years. Since the company needs $900 to recover the amount of its investment, it needs $225 in Year 4 to attain that. The company receives $450 in year 4, and since 225 is half of 450, it will be able to pay back its investment in 3.5 years.

30. **B –** It takes 3 years for the company to recover the initial investment of $100,000.

31. **B –** 10%

Annual net cash flow = $30,000 – $5,000 = $25,000

Annual depreciation expense = ($100,000 – $0) / 5 years = $20,000

Average investment = ($100,000 + $0) / 2 = $50,000

AAR = ($25,000 - $20,000) / $50,000 = 0.10 = 10%

32. **C** – 15%

    Annual net cash flow = $30,000 – $5,000 = $25,000

    Annual depreciation expense = ($100,000 - $20,000) / 5 years = $16,000

    Average investment = ($100,000 + $20,000) / 2 = $60,000

    AAR = ($25,000 - $16,000) / $60,000 = 0.15 = 15%

33. **C**

    NPV = PV cash inflows – PV cash outflows
    NPV = $10.7 mil - $8.9 mil = $1.8 mil

34. **C** – The NPV is positive

35. **B**

    In order for this to be an equitable, the Present Value of the annuities must be equal to the lump sum received the first year. In order to do this, you find the factor of the PVoa for five years at 8%, which is 3.99. Multiply that by 4,000 to find the present value of the annuities to be $15,960.

36. **A**

    PV inflows = $40,000 x 4.36 = $174,400

    NPV = $174,400 - $150,000 = $24,400

37. **B** – It is better to reject the lump sum cash flow if the present value of the alternative annuities exceeds the amount of the lump sum.

38. **C**

    To solve this problem we need to find the NPV of each project

    NPV #1 = -$20,000 + (0.91)($15,000) + (0.83)($10,000) + (0.75)($2,000) = $3,450

    NPV #2 = -$20,000 + (0.91)($9,000) + (0.83)($17,000) + (0.75)($1,000) = $3,050

    NPV #3 = -$20,000 + (0.91)($12,000) + (0.83)($16,000) = $4,200

    NPV #4 = -$20,000 + (0.91)($9,000) + (0.83)($19,000) = $3,960

39. **D** – Both B and C