4. Refer to the LP problem on the next page which represents a model for crashing a PERT

project.

4a). *According to the optimal solution*, which activities should be crashed and by how many days?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4b). *According the model formulation*, how much does it cost to crash activity

F?\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4c). *According to the model formulation*, which activity is *impossible* to crash? \_\_\_\_\_\_\_

4d). *According to the solution*, activity C will be completed by what day of the project?

\_\_\_\_\_\_\_\_\_\_\_

4e). Management wants the project completed in how many days? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

MIN 65YA+50YB+60YC+45YE+70YF

S.T.

1) 1YA<1

2) 1YB<2

3) 1YC<2

4) 1YE<2

5) 1YF<1

6) 1YA+1XA>20

7) 1YB-1XA+1XB>16

8) 1YC-1XB+1XC>18

9) -1XA+1XD>14

10) 1YE-1XD+1XE>19

11) 1YF-1XC+1XF>10

12) 1YF-1XE+1XF>10

13) 1XF<60

Objective Function Value = 280.000

Variable Value Reduced Costs

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YA 1.000 0.000

YB 2.000 0.000

YC 0.000 0.000

YE 1.000 0.000

YF 1.000 0.000

XA 19.000 0.000

XB 33.000 0.000

XC 51.000 0.000

XD 33.000 0.000

XE 51.000 0.000

XF 60.000 0.000

Constraint Slack/Surplus Dual Prices

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1 0.000 40.000

2 0.000 10.000

3 2.000 0.000

4 1.000 0.000

5 0.000 35.000

6 0.000 -105.000

7 0.000 -60.000

8 0.000 -60.000

9 0.000 -45.000

10 0.000 -45.000

11 0.000 -60.000

12 0.000 -45.000

13 0.000 105.000