

**Critical Path Method Exercises**

Based on the PMBOK® Guide Fifth Edition

*Course ID: PMTONDEMAND35*

*Contact Hours / PDUs: 35*

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**Practice Exercise**

Critical Path Method

Exercise 1:

For the following table of information,

1.

2.

3.

4.

Draw the network diagram

List the network paths Determine the critical path(s)

Determine the float for each activity

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**Activity**

**Duration**

**Dependency**

**Float**

Start

0 days

-

A

5 days

Start

B

2 days

Start

C

3 days

A, B

D

5 days

Start

E

6 days

Start

F

4 days

D, E

G

2 days

C, F

H

5 days

G

I

7 days

G

J

3 days

H

Finish

0 days

I, J



Exercise 2:

1. Perform a Forward Pass and a Backward Pass of the network diagram above

2. Which Activities has the same Early Finish as they have Late Finish?

**Note:** The project starts on Day “0”

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**2**

**M**

**8**

**L**

**3**

**N**

**5**

**K**

**7**

**J**

**8**

**I**

**5**

**H**

**5**

**G**

**3**

**F**

**5**

**C**

**3**

**B**

**2**

**A**

**1**

**E**

**1**

**D**

Early Start

Duration

Early Finish

Task Name

Late Start

Slack

Late Finish



Exercise 3:

For the following table of information,

1.

2.

3.

4.

Draw the network diagram

List the network paths Determine the critical path(s)

Determine the float for each activity

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**Activity**

**Duration (Days)**

**Dependency**

**Float**

Start

0

-

A

8

Start

B

5

A

C

6

B, H

D

8

C

E

9

D, F

F

3

C, I

G

7

Start

H

8

G

I

9

H

J

5

I

K

2

J

L

3

J

Finish

0



**Critical Path Method Exercise *Solutions***

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Exercise 1 Solution:

1.

2. Network paths:

1.

2.

3.

4.

5.

6.

7.

8.

**A -> C -> G -> H -> J**

**A -> C -> G -> I**

**B -> C -> G -> H -> J B -> C -> G -> I**

**D -> F -> G -> H -> J D -> F -> G -> I**

**E -> F -> G -> H -> J E -> F -> G -> I**

3. Critical path: **E -> F -> G -> H -> J (shown in red)**

4. Activity floats shown in the diagram

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**0**

**6**

**6**

**E**

**0**

**0**

**6**

Early Start

Duration

Early Finish

Task Name

Late Start

Slack

Late Finish

**6**

**4**

**10**

**F**

**6**

**0**

**10**

**0**

**5**

**5**

**D**

**1**

**1**

**6**

**12**

**7**

**19**

**I**

**13**

**1**

**20**

**10**

**2**

**12**

**G**

**10**

**0**

**12**

**0**

**2**

**2**

**B**

**5**

**5**

**7**

**17**

**3**

**20**

**J**

**17**

**0**

**20**

**12**

**5**

**17**

**H**

**12**

**0**

**17**

**5**

**3**

**8**

**C**

**7**

**2**

**10**

**0**

**5**

**5**

**A**

**2**

**2**

**7**



Exercise 2 Solution:

1.

2. Any activity on the critical path will have Late Finish equal to its Early Finish

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**21**

**2**

**23**

**M**

**25**

**4**

**27**

**13**

**8**

**21**

**L**

**17**

**4**

**25**

**25**

**3**

**28**

**N**

**27**

**2**

**30**

**20**

**5**

**25**

**K**

**20**

**0**

**25**

**13**

**7**

**20**

**J**

**13**

**0**

**20**

**5**

**8**

**13**

**I**

**5**

**0**

**13**

**0**

**5**

**5**

**H**

**0**

**0**

**5**

**25**

**5**

**30**

**G**

**25**

**0**

**30**

**10**

**3**

**13**

**F**

**22**

**12**

**25**

**5**

**5**

**10**

**C**

**17**

**12**

**22**

**2**

**3**

**5**

**B**

**14**

**12**

**17**

**0**

**2**

**2**

**A**

**12**

**12**

**14**

**11**

**1**

**12**

**E**

**29**

**18**

**30**

**10**

**1**

**11**

**D**

**28**

**18**

**29**

Early Start

Duration

Early Finish

Task Name

Late Start

Slack

Late Finish



Exercise 3 Solution:

1.

2. Network paths:

1.

2.

3.

4.

5.

6.

7.

**A -> B -> C -> D -> E**

**A -> B -> C -> F -> E**

**G -> H -> I -> J -> K**

**G -> H -> I -> J -> L**

**G -> H -> C -> D -> E**

**G -> H -> C -> F -> E**

**G -> H -> I -> F -> E**

3. Critical path: **G -> H -> C -> D -> E (shown in red)**

4. Activity Floats shown in the network diagram

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**29**

**3**

**32**

**L**

**35**

**6**

**38**

**24**

**5**

**29**

**J**

**30**

**6**

**35**

**15**

**9**

**24**

**I**

**17**

**2**

**26**

**7**

**8**

**15**

**H**

**7**

**0**

**15**

**0**

**7**

**7**

**G**

**0**

**0**

**7**

**29**

**2**

**31**

**K**

**36**

**7**

**38**

**24**

**3**

**27**

**F**

**26**

**2**

**29**

**15**

**6**

**21**

**C**

**15**

**0**

**21**

**8**

**5**

**13**

**B**

**10**

**2**

**15**

**0**

**8**

**8**

**A**

**2**

**2**

**10**

**29**

**9**

**38**

**E**

**29**

**0**

**38**

**21**

**8**

**29**

**D**

**21**

**0**

**29**

Early Start

Duration

Early Finish

Task Name

Late Start

Slack

Late Finish