

Assignment # 2

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E - 14

Assignment # 2

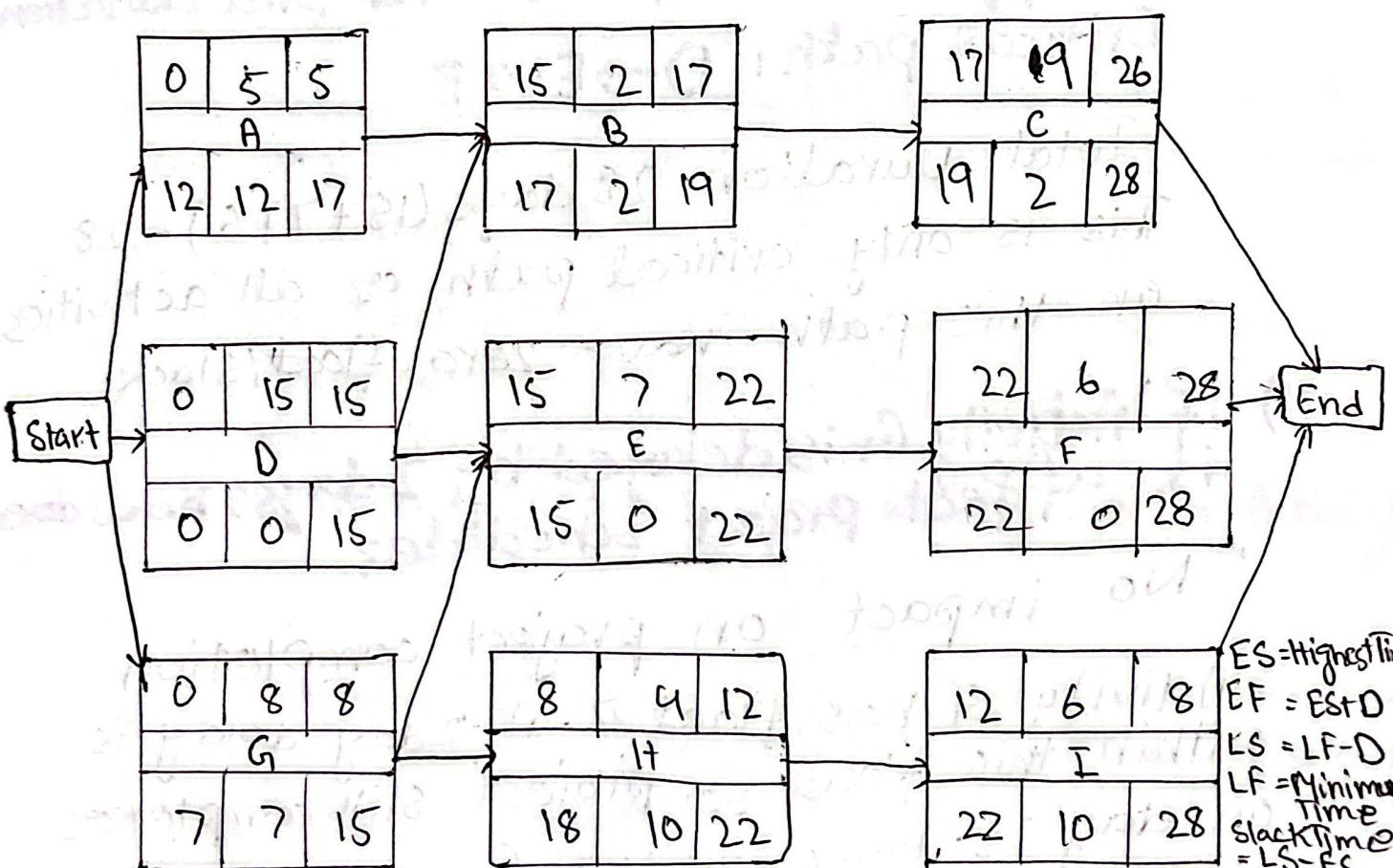
Note:

1. Assignment should be hand written and converted to pdf or word before submitting it in MS teams.
2. Typed assignment will get -2.5 marks as penalty.
3. Assignment submitted after deadline but within 24 hours will get -2.5 marks as penalty.
4. Assignment submitted after 24 hours but before 48 hours will get -5 marks as penalty.
5. Assignment submitted after 48 hours will get 00 marks.
6. Plagiarized assignments will get 00 marks.

Question #1:

<u>Activity</u>	<u>Duration</u>	<u>Predecessors</u>
A	5	
B	2	A, D
C	9	B
D	15	
E	7	D, G
F	6	E
G	8	
H	4	G
I	6	H

E.S	Duration	E.F
Activity		
LS	Float	LF



$ES = \text{Highest Ti}$
 $EF = ES + D$
 $LS = LF - D$
 $LF = \text{Minimum Time}$
 $\text{Slack Time} = LS - ES$
 $= LF - EF$

0 is critical Path activity

Question #1:

i) Start time for Activity C?

Answer: Days 17.

ii) if Activity F is delayed by 3 days

F would finish at $28 + 3 = 31$ days

F is on critical path with zero float. Any delay to F directly extends the project by 3 days. Delay means project completion moves from 28 days to 31 days.

iii) Identify critical paths and total duration

Critical path: D → E → F

Total Duration: 28 days ($15 + 7 + 6 = 28$)

This is only critical path as all activities on this path have zero float/slack.

iv) if Activity G₁ is delayed by 2 days, how does it affect project schedule?

No impact on project completion

Activity G₁ has float 7. A 2 day delay is within this float so project still completes on day 28. However the float G₁ and dependent activities (H, I) would be reduced.

5. What is the slack or float time for Activity B?

2 days.

LS - ES

$$17 - 15 = 2$$

6. If Activity H takes longer than expected & is delayed 1 day, how does it affect the project schedule?

No impact on project completion.

Activity H has a float of 10 days. A 1-day delay is well within this buffer, so the project timeline remains at 28 days.

7. Can Activity D be completed later than its original duration without affecting

No

Activity D is on critical path with zero float.

Any delay to D will directly delay entire project by same amount.

8. What activities are considered essential & must be completed before any other work can begin

Activities A, D and G

These 3 activities have no predecessors and can start immediately at day 0. They form the initial parallel starting points of project.

9. Determine earliest and latest start for Activity I

Early Start = Day 12

Late Start = Day 28

Activity I has significant flexibility with float of 16 days.

10. If Activity A is completed in 8 days instead of 10 days, The problem states Activity A is 5 days, but question mentions "8 days instead of 10". Regard of interpretation:

No impact on project timeline.

Activity A has 12 days of float and it is not critical. Activity A has 12 days of float and its duration remains 28 days.

Question #2:

1) Correct:

A requirement is correct if it accurately represents what the customer truly needs.

Example:

User needs a login page → requirement says "System must have a login page!"

2) Consistent:

A requirement is consistent when it does not conflict with other requirement

Example:

One requirement says "Password must be 8-12 characters" another should not say "Password must be 16 characters"

3) Unambiguous:

A requirement is Unambiguous if it has only one clear meaning.

Example:

Instead of saying "System should be fast" specify "System shall load the dashboard within 3s"

4) Complete:

A requirement is complete when all necessary details and conditions are provided

Example:

Form must have email, name, phone & submit button

5) Feasible:

It can realistically be implemented using available time, budget and technology

Example:

The shall support "1 million users" may be infeasible for a small startup.

6) Relevant:

A Requirement is relevant if it directly supports project goals and is needed by user

Example:

The system shall play background music is relevant for a banking app.

7) Testable:

A Requirement is testable if it can be checked through testing or measurement.

Example:

The page must load in 5 seconds - This can be measured and verified.

8) Traceable:

A requirement is traceable if it can be linked to its source and to related design, code, and test cases.

Example:

Requirement ID R-03 can be traced to design module D-05 and Test case T-12.

∴ Question # 3 :-

