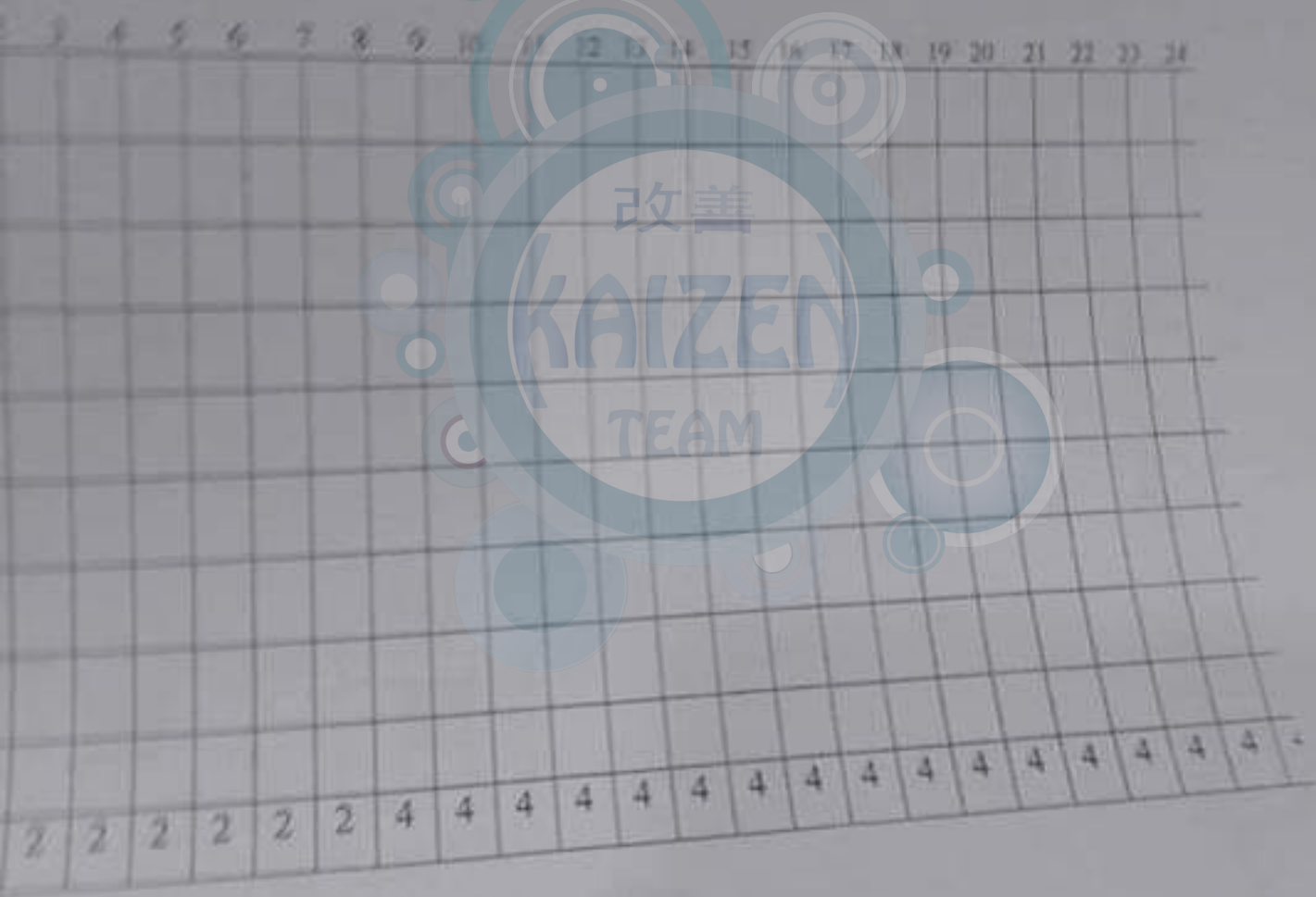
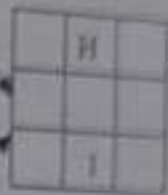


- The activity times for a project are given in the Table. Use the PERT technique to answer the following:
- Draw an AOA network for the project.
 - What is the expected project duration for the project?
 - What is the variance of the project duration (T_v)?
 - What is the probability that the project will be completed before a scheduled time (T_s) of 60?
 - What is the probability that the project will be completed after a scheduled time (T_s) of 45?

Activity	Predecessor	Optimistic (a)	Time in work days Most likely (m)	Pessimistic (b)	Weighted average activity time (t_e)
A	None	4	7	10	
B	None	2	4	6	
C	None	16	19	28	
D	A, B	4	7	10	
E	B, C	16	19	28	
F	D, E	1	7	13	
G	E	6	9	24	
H	F, G	2	5	8	



(6: (5 marks)

- a) Given a project with activities of an equal level of risk. You need to reduce the overall project duration. Give one reason why would you not select the activity with the lowest slope in the same project network to crash first.

- b) What are the two strategies for mitigating risks? Give an example for each strategy to support your answer.

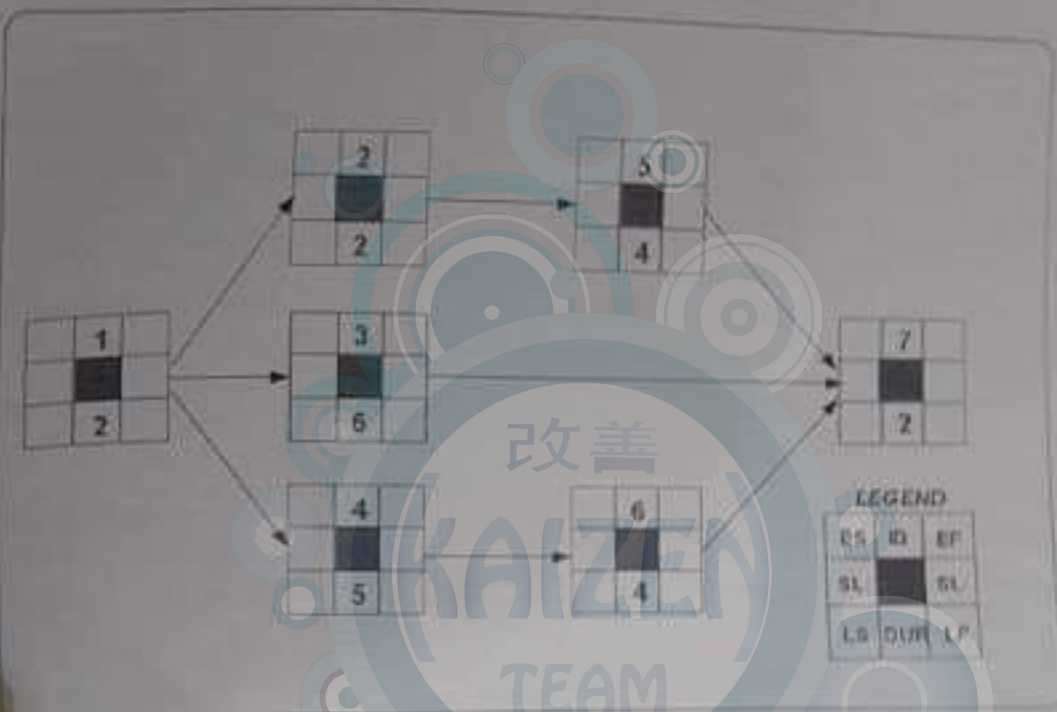
- c) The following table is a risk assessment form that has been developed by team members of a construction project. Draw the risk severity matrix for it.

Risk event	Likelihood	Impact	Detection difficulty	When
Shortage in workers	4	4	2	Construction
Machine malfunction	4	5	3	Foundation
Materials shortage	2	1	1	Construction
Change in specifications	1	4	2	Design

Q4: (10 marks)

The following labor hours data have been collected for a nanotechnology project for periods 1 through 5.

- Compute SV and CV for each period.
- Compute SPI, CPI and PCIB for each period.
- What is your assessment of the project at the end of period 5.

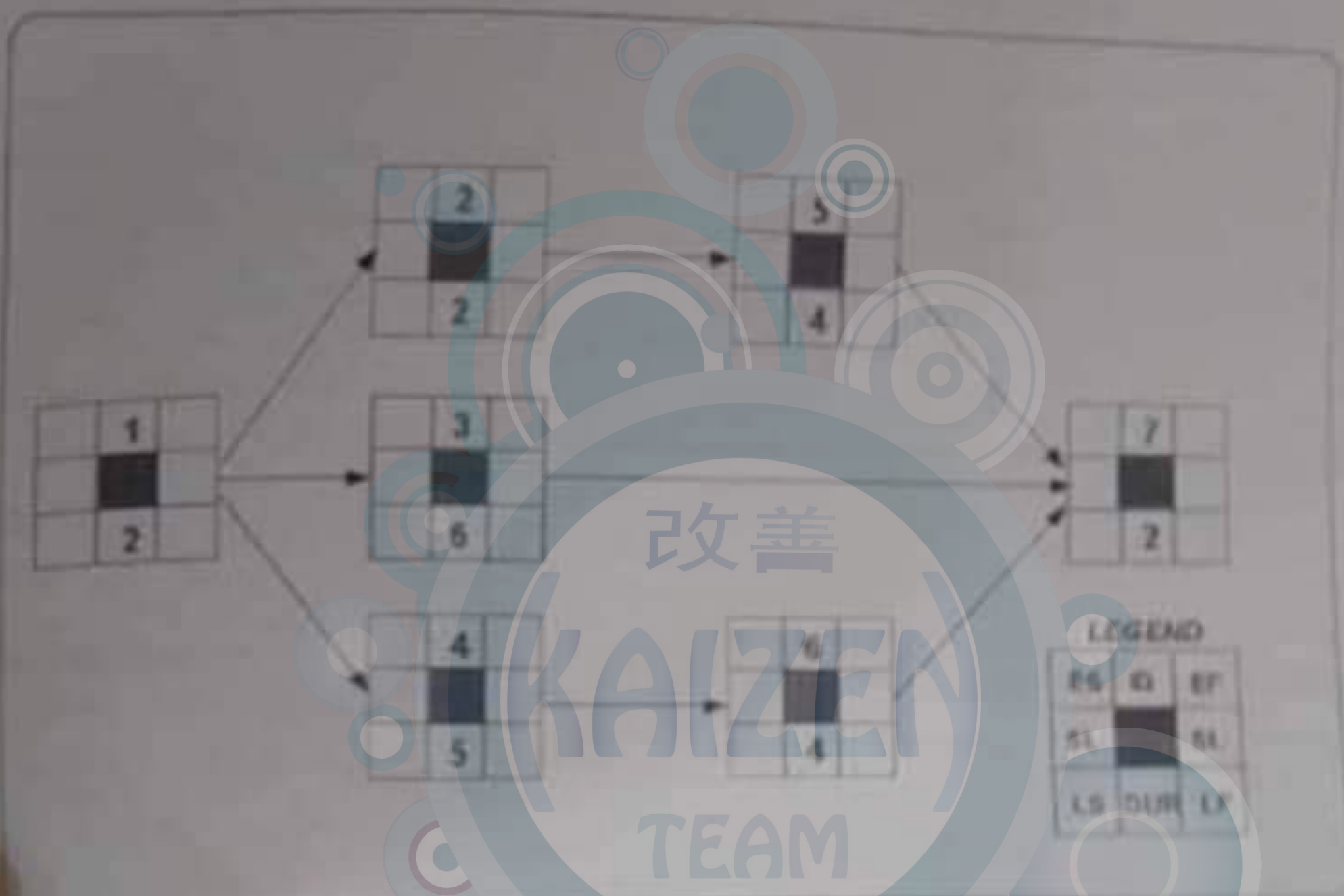


SCHEDULE INFORMATION						BASELINE BUDGET NEEDS -- LABOR HOURS (00)																	
ACTIVITY	DUR	ES	EF	LS	TOTAL PV	TIME PERIOD																	
						0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	2	0	2	0	20	10	10																
2	2	2	4	2	24			16	8														
3	6	2	8	2	30			5	5	10	3	2	5										
4	5	2	7	2	25			10	10	2	2	1											
5	4	4	8	4	16					4	4	4	4										
6	4	7	11	7	20									5	5	6	4						
7	2	11	13	11	10																		
TOTAL PV BY PERIOD																				5	5		
CUMULATIVE PV BY PERIOD						10	10	26	31	41	45	50	55	60	65	71	75	81	86	91	96	101	106
						10	20	51	74	95	99	104	109	114	119	125	130	135	140	145	150	155	160

Q4: (10 marks)

The following labor hours data have been collected for a nanotechnology project for periods 1 through 5.

- Compute SV and CV for each period.
- Compute SPI, CPI and PCIB for each period.
- What is your assessment of the project at the end of period 5.



SCHEDULE INFORMATION						BASELINE BUDGET NEEDS -- LABOR HOURS (50)														
ACTIVITY	DUR	ES	LF	SL	TOTAL PV	TIME PERIOD														
						0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	0	2	0	20	10	10													
2	2	2	7	3	24			16	8											
3	6	2	11	3	30			5	5	10	3	2	5							
4	5	2	7	0	25			10	10	2	2	1								
5	4	4	11	3	16															
6	4	7	11	0	20					4	4	4	4							
7	2	11	13	0	10									5	5	5	4			
TOTAL PV BY PERIOD																			5	5
CUMULATIVE PV BY PERIOD						10	10	26	23	16	9	7	14	5	6	4	5	5		
						10	20	51	74	99	99		124	130	135	140				
													100	120	125	140				

ks)

project) with activities of an equal level of risk. You need to reduce the overall project duration. Explain the reason why would you not select the activity with the lowest slope in the entire project network.

What are the two strategies for mitigating risk? Give an example for each strategy to support your answer.



Learning table is a risk assessment form that has been developed by team-members of a construction company. Fill in the risk severity matrix for it.

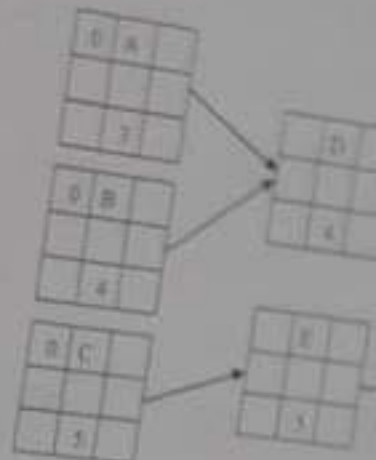
	Likelihood	Impact	Detection difficulty	When
Foundation	4	4	2	Construction
Roofing	4	5	5	Foundation
Interior	2	1	1	Construction
Exterior	1	4	2	Design



(25: (30 marks))

For a project, the key resource is a builder. From period 1 to period 8, there are two builders available to the project. At period 9, the project manager will bring two additional builders. Therefore, from period 9 till the end of project, there will be four builders available.

- a) Develop a resource schedule in the loading chart that follows. Use the parallel method and the following heuristics:
- Minimum slack
 - Smallest duration
 - Lowest identification number



Activity	Duration	ES	EF	LS	LF	Slack	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3																				
B	4																				
C	5																				
D	4																				
E	5																				
F	3																				
G	2																				
H	2																				
Resource scheduled																					
Resource available							2	2	2	2	2	2	2	2	2	4	4	4	4	4	4

What is the resource utilization after the resource schedule?



Hãđếểl KhãmMãsh

6 April 2015 · 🌐



Like



Comment



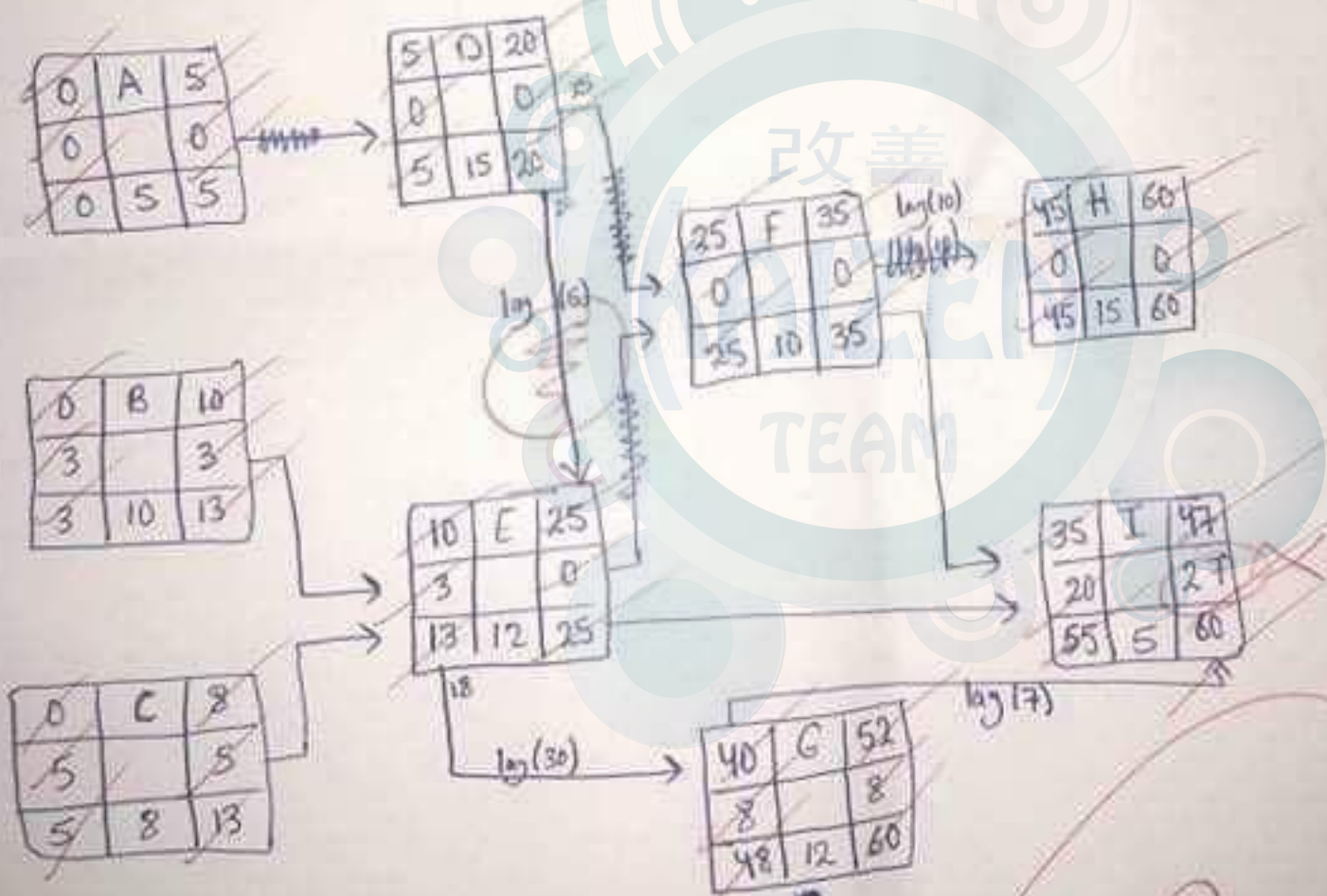
Share

Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	5	None	0	None	0
B	10	None	0	None	0
C	8	None	0	None	0
D	15	A	0	Finish-to-finish D to E	5
E	12	B, C	0	Start-to-start E to G	30
F	10	D, E	0	None	0
G	12	None	0	Start-to-finish G to I	7
H	15	F	10	None	0
I	5	F, E	0	None	0



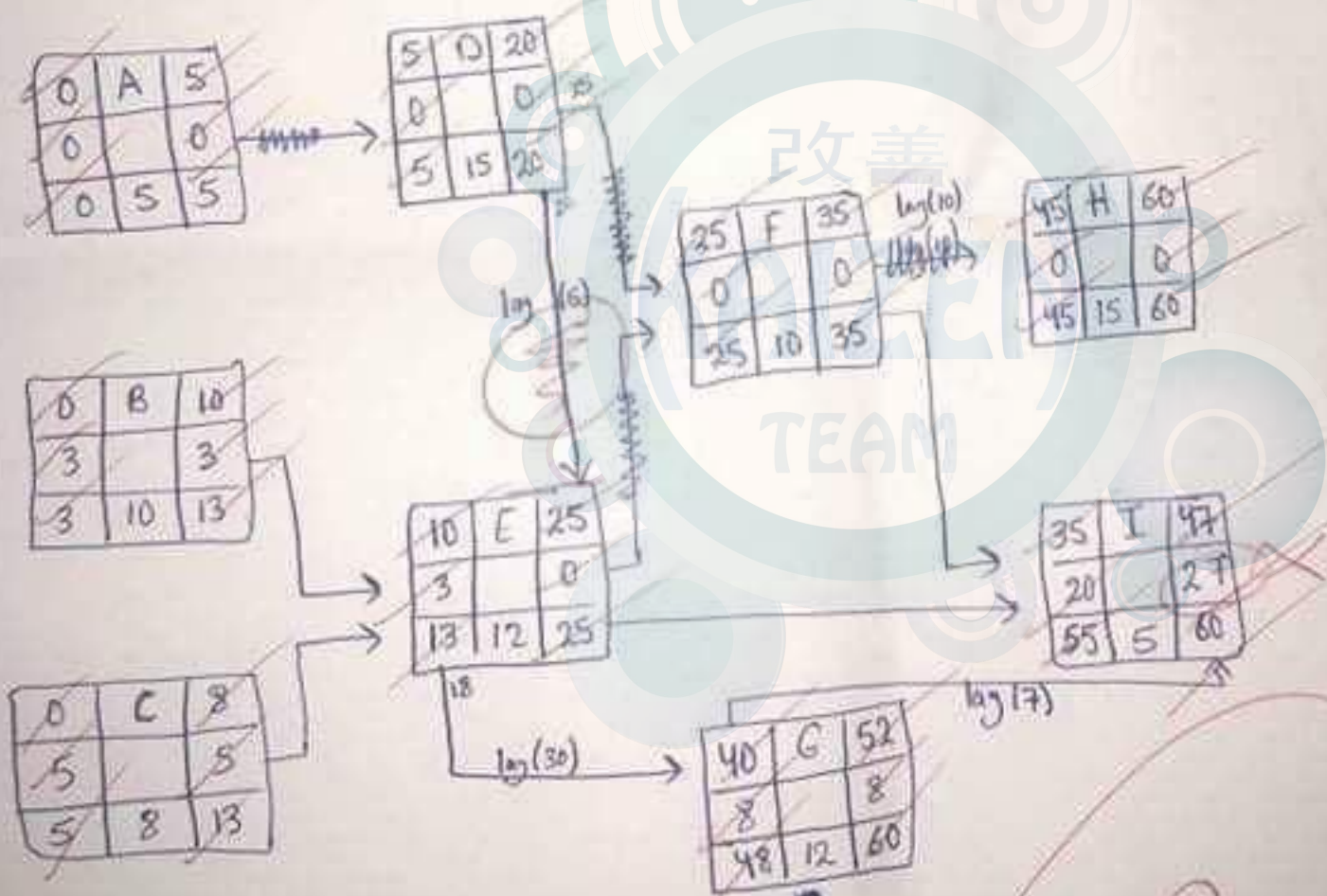
9
10

Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	5	None	0	None	0
B	10	None	0	None	0
C	8	None	0	None	0
D	15	A	0	Finish-to-finish D to E	5
E	12	B, C	0	Start-to-start E to G	30
F	10	D, E	0	None	0
G	12	None	0	Start-to-finish G to I	7
H	15	F	10	None	0
I	5	F, E	0	None	0



9
10

Q1:- List 3 reasons why firms should "Be Green"? (3 points)

1. Consumers demand for environmentally safe products and packages is high
2. Environmental ~~advocacy~~ ^{advocacy} groups now have ^{more} 20 million Americans as members
3. Federal and state environmental obligations are ~~changing~~ ^{changing} rapidly and becoming more complex.

Q2:- Define business ethics: (2 points)

principles of conduct within organization that guide decision making and ~~behavior~~ ^{behavior} behaviour.

②

Q1 (15 Marks)

1	Learning Curve	✓
2	Process breakdown structure	
3	Normal Condition	
4	Delivery delivering phase	✓
5	Project project	✓
6	mile stone	✓
7	preparation	
8	direct overhead cost	✓
9	padding	✓
10	scope creep	✓
11	laddering	✓
12	to Hammer K	✓
13	406	
14	20-3 months	
15	\$ 48720	

Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	10	None	0	None	0
B	15	None	0	Start-to-finish B to C	15
C	10	None	0	Start-to-start C to G	15
D	10	A	0	None	0
E	10	C	0	None	0
F	10	D, E	15	Finish-to-finish F to G	10
G	10	None	0	None	0
H	20	F	0	None	0
I	10	E	0	None	0

11. If time and costs are important to a project the top-down approach to estimating time and costs for the project is the best choice.
12. The critical path is the shortest path through a network and indicates activities that cannot be delayed without delaying the project.
13. If testing cannot be completed any earlier than four days after the prototype is built, the type of lag that exists is Finish to Finish.
14. The WBS identifies dependencies, the sequencing of activities, and the timing of activities.
15. In a process-break-down structure, the project is organized around phases or groups of activities rather than the more conventional deliverables.
16. If a project criterion indicates that the project must meet a specified date, that criterion is classified as constrained.
17. Consensus method is a top-down method used when projects closely follow past projects in features and costs and results in costs being assigned by percentages to major segments of the project.
18. The forward pass in project network calculations determines the earliest times activities can be finished.
19. You are more likely to find status reports, many changes and the creation of forecasts in the planning stage of the project life cycle.
20. The first step in creating the necessary information to manage a project is to verify the budget available.

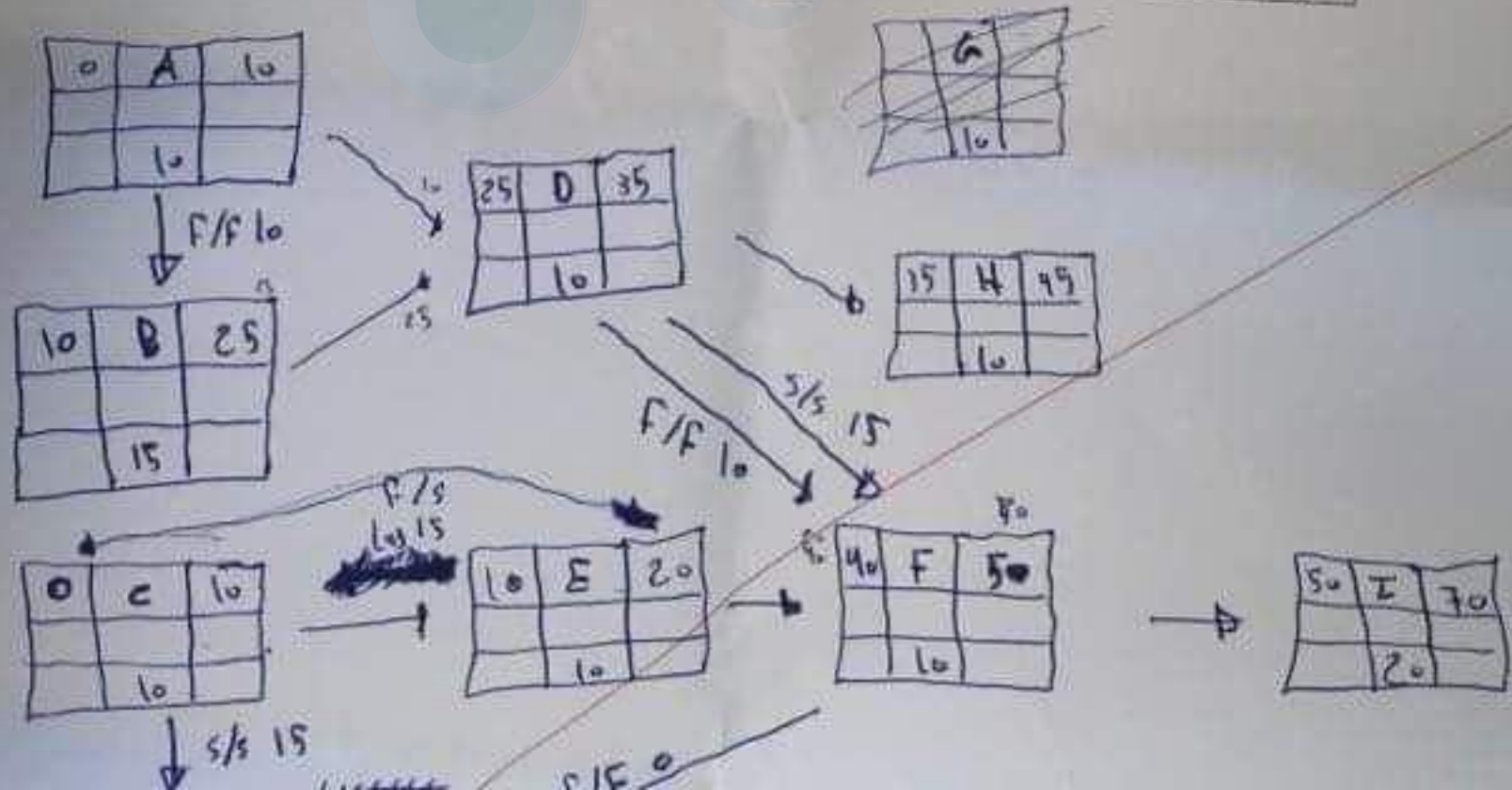
Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

الحل بالخط

Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	10	None	0	Finish-to-finish A to B	10
B	15	None	0	None	0
C	10	None	0	Start-to-start C to G	15
D	10	A, B	0	Start-to-start D to F	15
E	10	C	15	Finish-to-finish D to F	10
F	10	E	0	None	0
G	10	None	0	Finish-to-finish F to G	0
H	10	None	0	None	0
I	20	D	0	None	0
J	20	F	0	None	0

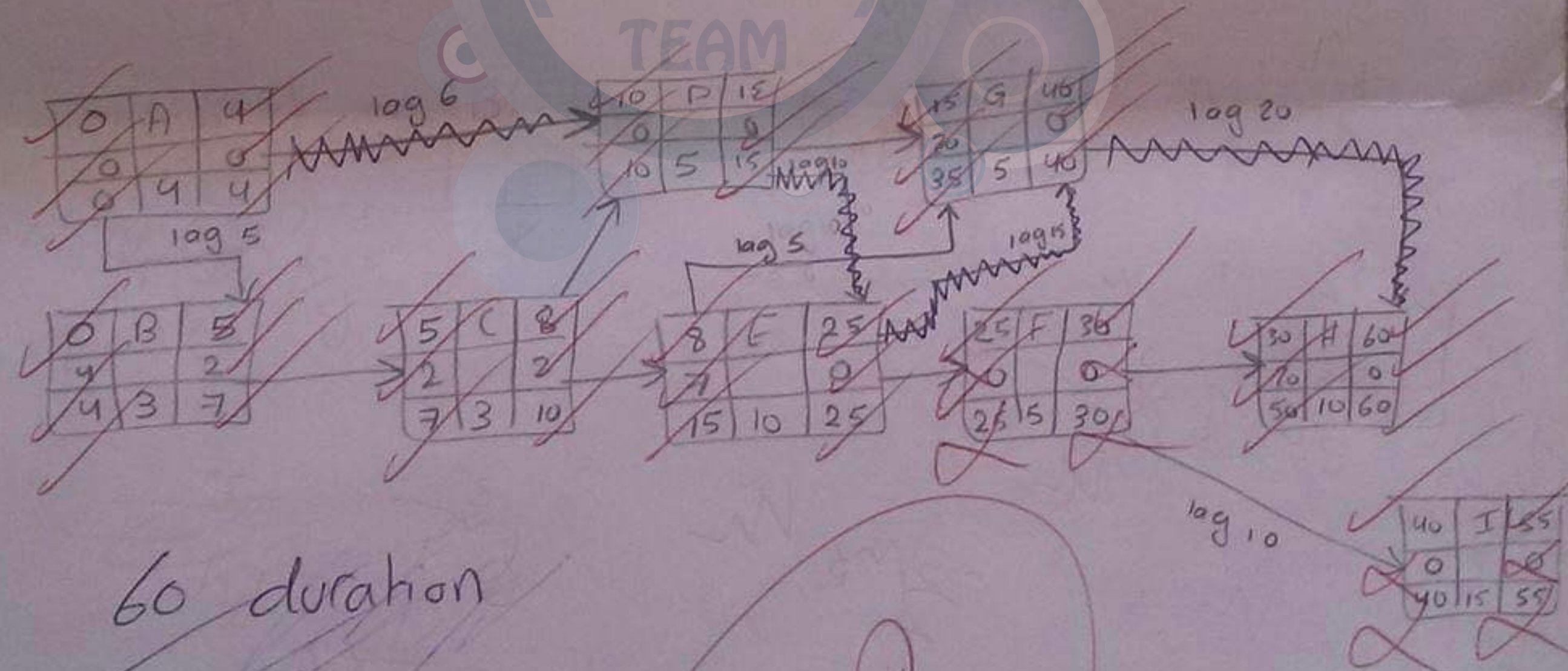


Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	4	None	0	Start-to-finish A to B	5
B	3	None	0	None	0
C	3	B	0	None	0
D	5	A	6	Finish-to-finish D to E	10
E	10	C	0	Start-to-start E to G	5
F	5	E	0	Finish-to-finish E to G	15
G	5	D	0	None	0
H	10	F	0	Finish-to-finish G to H	20
I	15	F	10	None	0



(6: (5 marks)

- a) Given a project with activities of an equal level of risk. You need to select the overall project duration. Give one reason why would you not select the activity with the lowest slope in the same project network to crash first.

- b) What are the two strategies for mitigating risks? Give an example for each strategy to support your answer.

- c) The following table is a risk assessment form that has been developed by team members of a construction project. Draw the risk severity matrix for it.

Risk event	Likelihood	Impact	Detection difficulty	When
Shortage in workers	4	4	2	Construction
Machine malfunction	4	5	5	Foundation
Materials shortage	2	1	1	Construction
Change in specifications	1	4	2	Design

Q1:

State if the statement is true or false:

1. The salary of the project manager and temporary rental space for the project team will be classified as General and Administrative overhead costs.
2. An expected output over the life of a project would be classified as milestones.
3. When estimating the time and cost of work packages, estimates should include a level of contingency.
4. The tendency to over-estimate project time and cost in order to improve the likelihood of meeting the estimates is known as scope creep.
5. Ali is forecasting the time and cost of delivering a customized software program by looking at the number of inputs, outputs, inquiries, files and interfaces. He is using the Template method.
6. Free slack is the amount of time an activity can be delayed without delaying any immediately following (successor) activity.
7. Concurrent engineering is a good example of good use of start to start lags.
8. Significant events in a project that occur at a specific point in time, are natural control points, and are easily recognized by project participants are known as cost accounts.
9. The gradual expansion of project requirements during the execution of project is known as padding.
10. A typical responsibility matrix will include not only those responsible for a specific task but also those who supply support and assistance.

- 1 - F
- 2 - F (Direct overhead)
- 3 - F (deliverable)
- 4 - F $\approx$
- 5 - F (Function point)
- ~~6 - F~~

8 - F Milestones

9 - F (creep)

10 -

11 - F (Bottom-up)

12 - F longest path

~~13~~

14 - F Project Network

15 -

16 - T

17 - T $\approx$

18 - T

19 - F (Executing)

20 - ~~F~~ $\approx$ T

Q3: MULTIPLE CHOICES: circle around the correct answer (5 points)

1. Which level of strategy is most likely *not* present in small firms?

- a) Corporate/company
- b) Functional
- ☒ c) Divisional
- d) Operational
- e) All of the above are present in small firms.

2. Unrelated diversification is an appropriate strategy when an organization's present channels of distribution can be used to market the new products to current customers.

☒ a) True

☐ b) False

3. Forward Integration is an appropriate strategy when the advantages of stable prices are particularly important.

a) True

☒ b) False

Even stable production

4. Many people consider it unethical for a firm to be socially irresponsible.

☒ a) True

☐ b) False

5. Social responsibility refers to actions an organization takes that are legally required to protect or enhance the well-being of living things.

a) True

☒ b) False

beyond legally

5

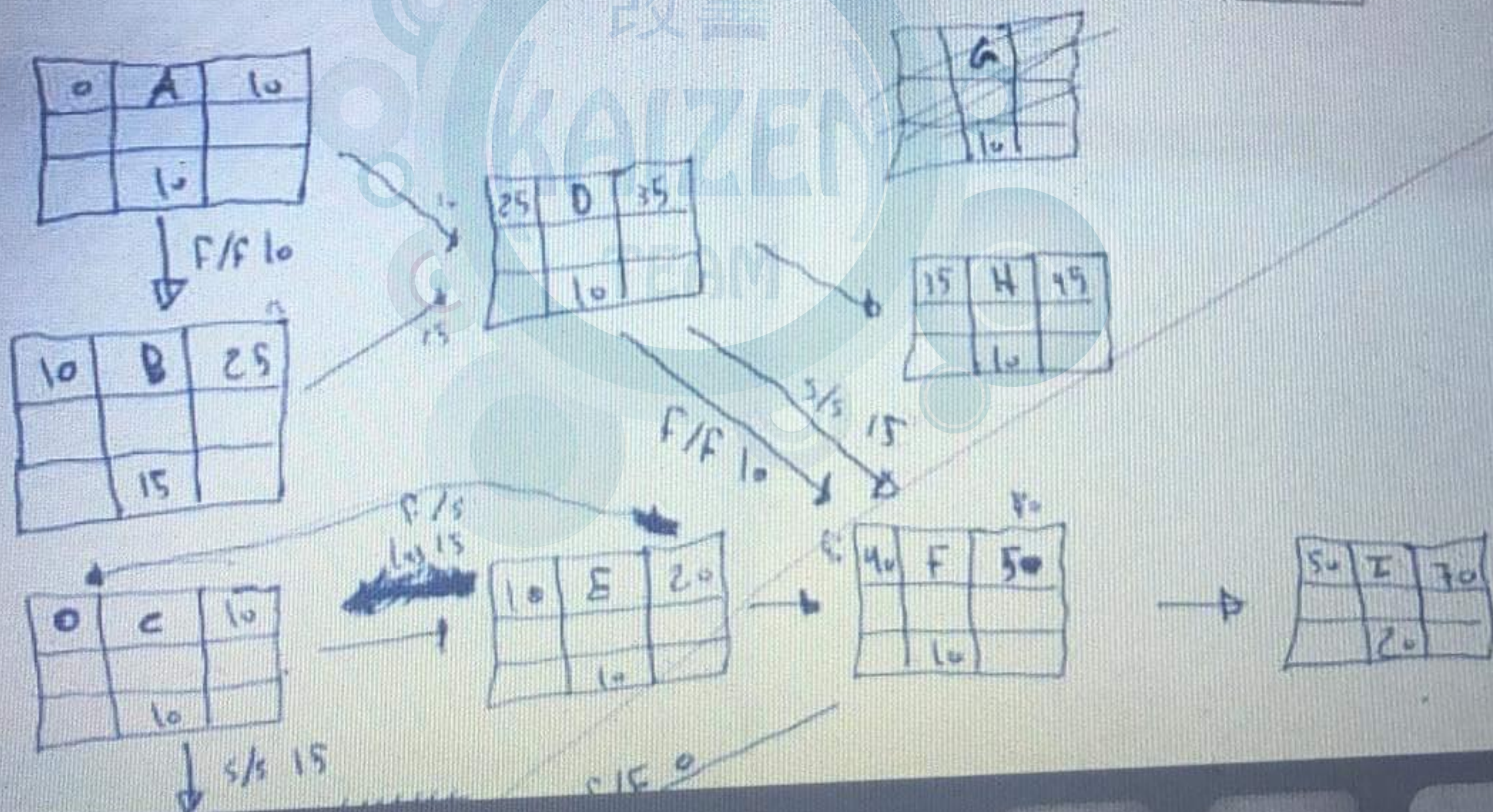
Q3: (10 marks)

- Use the information in Table 1 to draw the project network using the activity-on-node approach.
- Complete the early, late, and slack times for each activity.
- Identify the critical path (draw blue zigzag on the critical path).

الحل بالخط

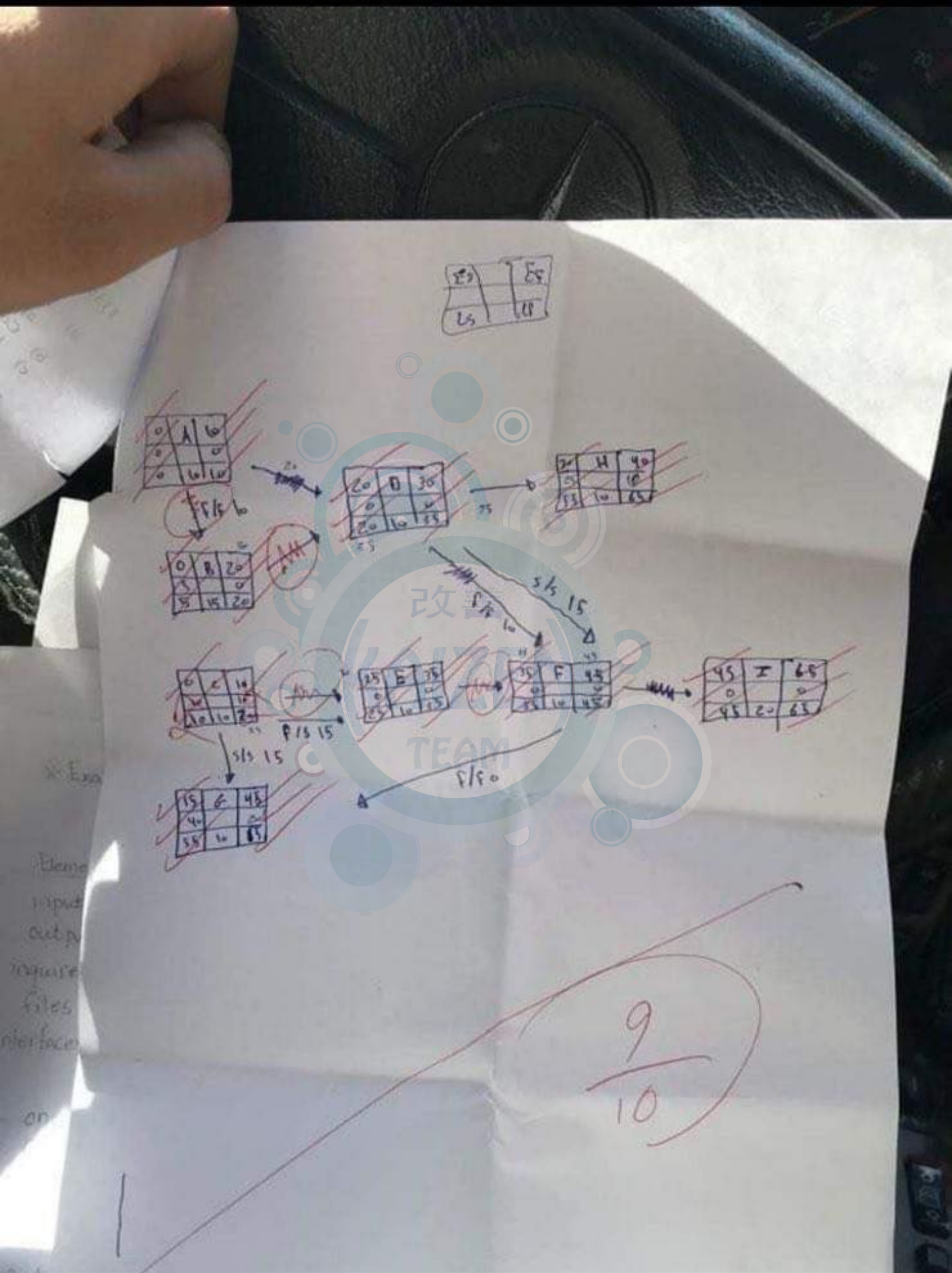
Table 1

ID	Duration	Finish-to-Start predecessor	Finish-to-Start lag	Additional relationships	lag
A	10	None	0	Finish-to-finish A to B	10
B	15	None	0	None	0
C	10	None	0	Start-to-start C to G	15
D	10	A,B	0	Start-to-start D to F	15
E	10	C	15	Finish-to-finish D to F	10
F	10	E	0	None	0
G	10	None	0	Finish-to-finish F to G	0
H	10	D	0	None	0
I	20	F	0	None	0



Done

Edit



More

Add to story

Q1:

State if the statement is true or false:

1. The salary of the project manager and temporary rental space for the project team will be classified as General and Administrative overhead costs.
2. An expected output over the life of a project would be classified as milestones.
3. When estimating the time and cost of work packages, estimates should include a level of contingency.
4. The tendency to over-estimate project time and cost in order to improve the likelihood of meeting the estimates is known as scope creep.
5. Ali is forecasting the time and cost of delivering a customized software program by looking at the number of inputs, outputs, inquiries, files and interfaces. He is using the Template method.
6. Free slack is the amount of time an activity can be delayed without delaying any immediately following (successor) activity.
7. Concurrent engineering is a good example of good use of start to start lags.
8. Significant events in a project that occur at a specific point in time, are natural control points, and are easily recognized by project participants are known as cost accounts.
9. The gradual expansion of project requirements during the execution of project is known as padding.
10. A typical responsibility matrix will include not only those responsible for a specific task but also those who supply support and assistance.