

UNIT 6

Project Management

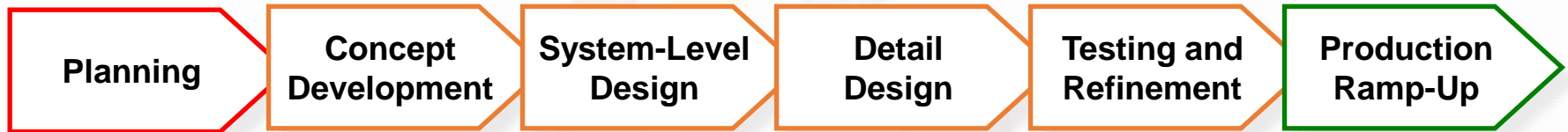
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Project Management

The logo of Galgotias University is a stylized, circular emblem. It features a central white swirl that transitions into a blue swirl, which then transitions into a yellow swirl, and finally into a red swirl. The entire emblem is set against a light gray background.

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Product Development Process



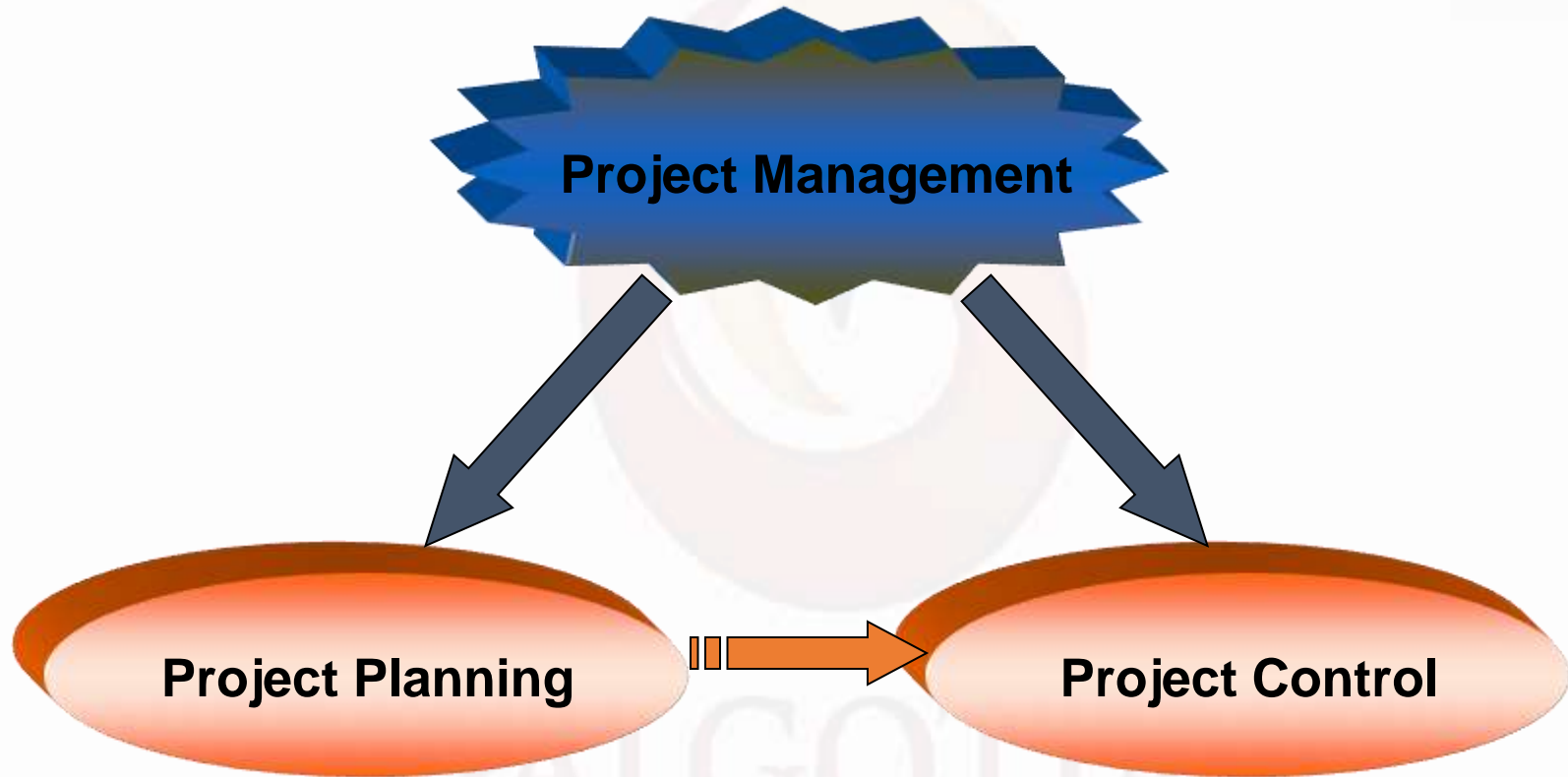
Project management is necessary throughout the development process.

Chapter Example

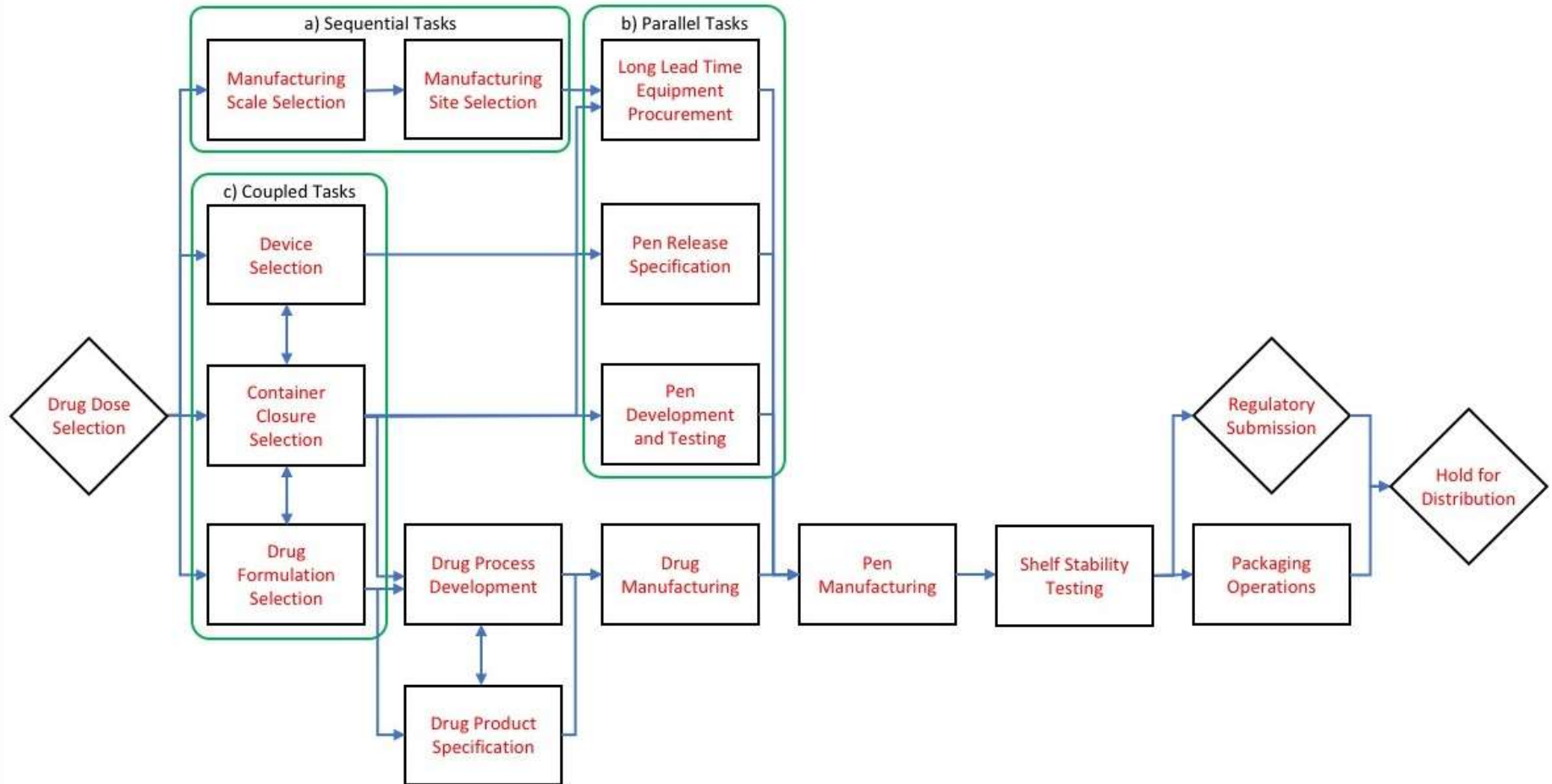


Plegridy Pen Automatic Injection Syringe

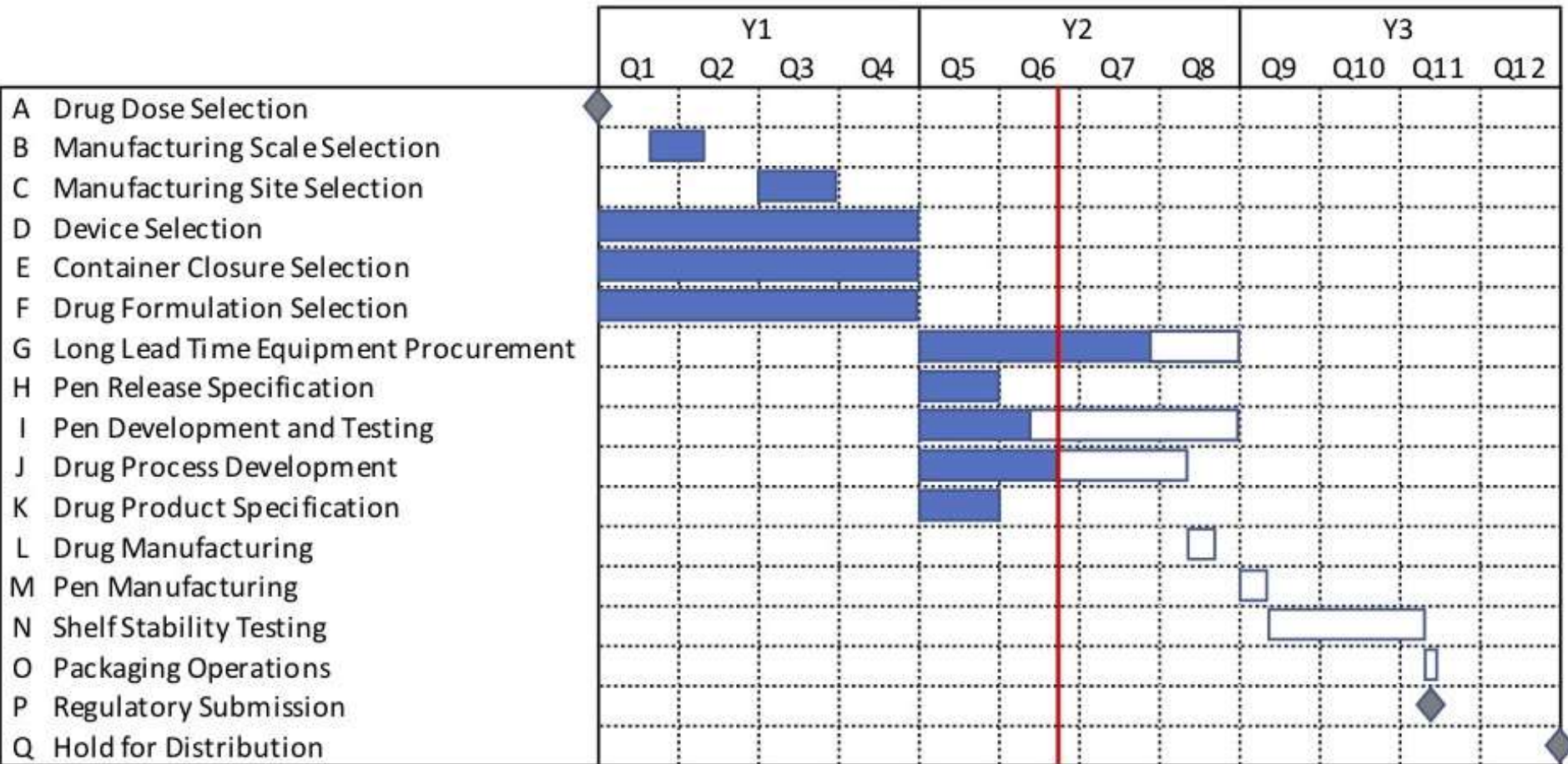
Two Phases of Project Management



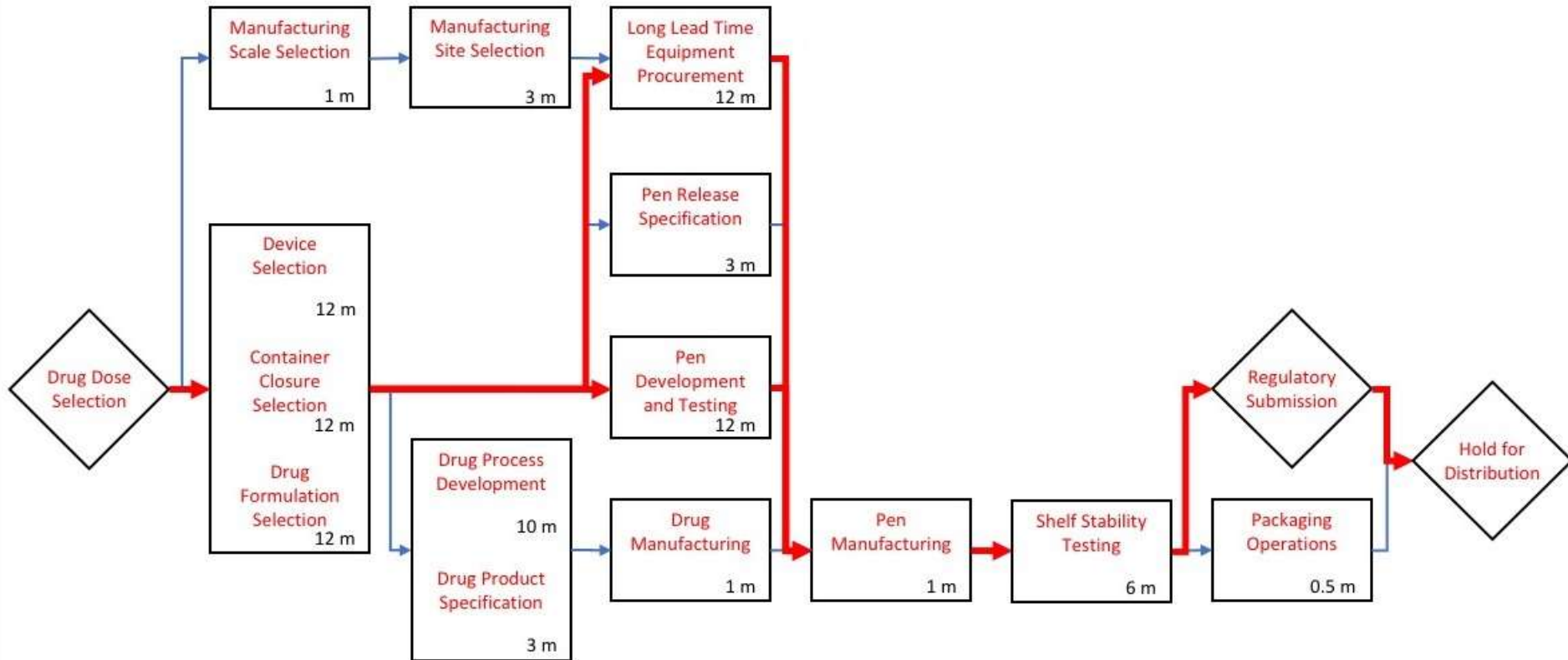
Task Network Showing Three Types of Activity Relationships



Gantt Chart



PERT and CPM Charts



Design Structure Matrix

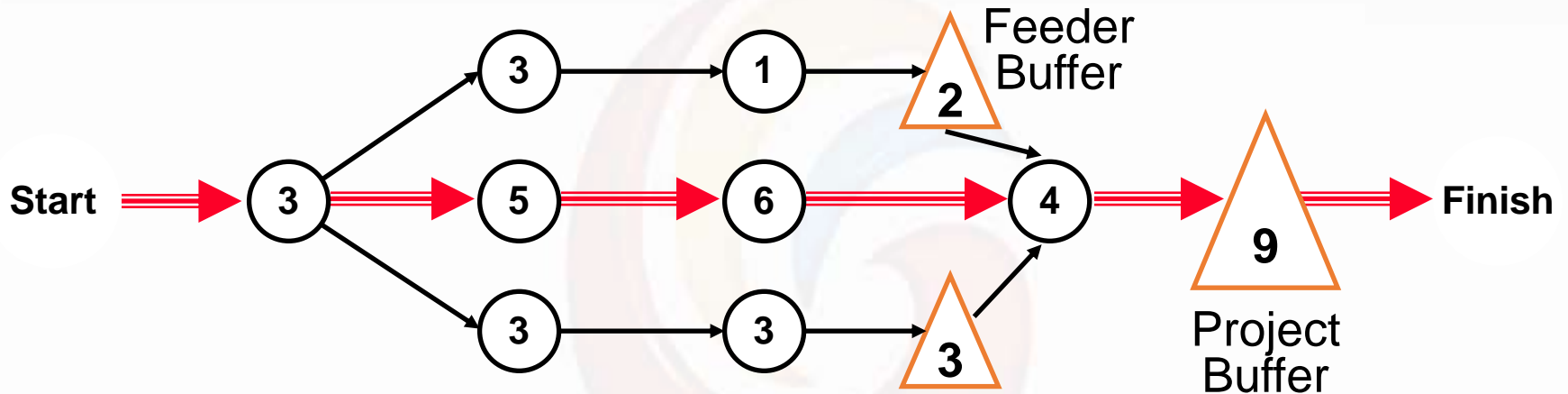
Task Sequence

- Drug Dose Selection
- Manufacturing Scale Selection
- Manufacturing Site Selection
- Device Selection
- Container Closure Selection
- Drug Formulation Selection
- Long Lead Time Equipment Procurement
- Pen Release Specification
- Pen Development and Testing
- Drug Process Development
- Drug Product Specification
- Drug Manufacturing
- Pen Manufacturing
- Shelf Stability Testing
- Packaging Operations
- Regulatory Submission
- Hold for Distribution

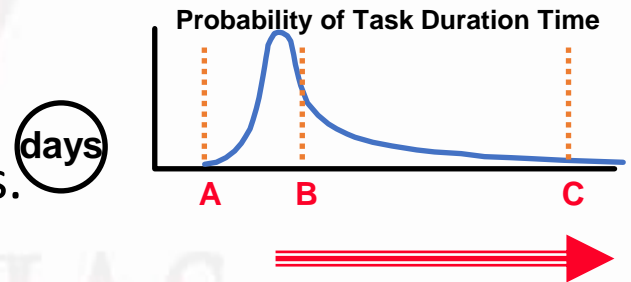
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
A	A																	
B	x	B																
C		x	C															
D	x			D	x	x												
E	x			x	E	x												
F	x			x	x	F												
G		x	x	x	x		G											
H				x	x	x		H										
I				x	x				I									
J					x	x				J	x							
K	x					x				x	K							
L	x		x		x	x				x	x	L						
M		x	x				x	x	x				x	M				
N								x					x	x	N			
O							x	x					x	x	x	O		
P	x		x	x	x	x			x	x	x	x	x	x	x		P	
Q								x					x	x	x	x	x	Q

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Critical Chain Method



- Start with a sequential/parallel network.
- Use 50/50 task duration estimates.
- Compute the critical path, noting resources.
- Insert feeder and project buffers as safety.
- Ideal buffers are 50% of path duration.
- Monitor buffer status.
- Reduce buffers when tasks overrun.



Tasks for Cooking Dinner

Wash and cut salad vegetables (15 minutes)

Toss the salad (2 minutes)

Set the table (8 minutes)

Start the rice cooking (2 minutes)

Cook rice (25 minutes)

Place the rice in a serving dish (1 minute)

Mix casserole ingredients (10 minutes)

Bake the casserole (25 minutes)

Bring the food to the table (2 minutes)

Call the family for dinner (1 minute)

Group Assignment

Part 1

- Prepare a baseline project schedule for cooking the dinner. Show the schedule in Gantt chart form.
- You will need to identify the dependencies among the tasks. State your assumptions.

Part 2

- Prepare an accelerated project schedule.
- Explain why you believe that the accelerated project is feasible. What are the risks?



References

1. Karl T. Ulrich and Steven D. Eppinger (2009), Product Design and Development, 4th Edition, Tata McGraw-Hill Publishing Company Limited, ISBN: 978-0-070-14679-2
2. Stephen C. Armstrong (2005), Engineering and Product development Management– The Holostic Approach, Cambridge University Press, ISBN: 978-0-521-01774-9.
3. IbrahimZeid (2006), Mastering CAD/CAM, 2nd Edition, Tata McGraw-Hill, ISBN: 978-0-070-63434-3.
4. [Anoop Desai](#), [Anil Mital](#) and [Anand Subramanian](#) (2007), Product Development: A Structured Approach to Consumer Product Development, Design, and Manufacture, 1st Edition, Butterworth-Heinemann, ISBN: 978-0-750-68309-8.

Thank you

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