

Project Management MCQs – CPM, Slack Time, and PERT

Critical Path Method (CPM)

Q1: What is the main purpose of the Critical Path Method (CPM)?

- A. To identify the shortest path in a project network
- B. To allocate resources among multiple projects
- C. To determine the sequence of dependent tasks that determine project duration
- D. To manage project costs and budget

✓ **Correct Answer: C**

Q2: What does CPM primarily focus on?

- A. Resource optimization
- B. Cost minimization
- C. Time scheduling and project duration
- D. Quality control

✓ **Correct Answer: C**

Q3: What is a key assumption in CPM?

- A. Activities have uncertain durations
- B. All activities must be completed before the project starts
- C. Activity durations are known and fixed
- D. Each task is dependent on only one predecessor

✓ **Correct Answer: C**

Q4: Which is a correct step in performing CPM analysis?

- A. Estimating budgets for each task
- B. Assigning human resources
- C. Calculating activity costs
- D. Identifying the critical path

✓ **Correct Answer: D**

Q5: What is the first step in creating a CPM network?

- A. Calculate float for each task
- B. Determine total project cost
- C. Identify project activities and their dependencies
- D. Draw a Gantt chart

✓ **Correct Answer: C**

Q6: Which of the following is performed *after* calculating early and late times in CPM?

- A. Risk analysis
- B. Budget planning
- C. Identifying slack
- D. Quality assurance

✓ **Correct Answer: C**

Q7: In a CPM network, what is an “event”?

- A. A task requiring resources
- B. A node representing the completion of one or more activities
- C. A task that can start independently
- D. A summary of project objectives

✓ **Correct Answer: B**

Q8: What defines a dependency in project scheduling?

- A. The relationship between cost and resources
- B. The logical sequence in which tasks must be performed
- C. The level of resource utilization
- D. The time required to complete a task

✓ **Correct Answer: B**

Q9: What type of dependency requires one activity to finish before another can start?

- A. Start-to-Start
- B. Finish-to-Finish
- C. Finish-to-Start
- D. Start-to-Finish

✓ **Correct Answer: C**

Q10: How is the critical path in a project identified?

- A. By the path with the most activities
- B. By the path with the lowest cost
- C. By the path with zero slack time
- D. By the path that starts with the longest task

✓ **Correct Answer: C**

Q11: What is the significance of activities on the critical path?

- A. They can be delayed without affecting the project
- B. They must be completed with extra budget
- C. They determine the minimum project duration

D. They can be skipped if time allows

✓ **Correct Answer: C**

Q12: What happens if a task on the critical path is delayed?

- A. It will not affect the project
- B. It delays the entire project
- C. It reduces total float
- D. It increases slack in non-critical paths

✓ **Correct Answer: B**

Slack Time (Float)

Q13: What is "slack time" in project management?

- A. Time saved when an activity finishes early
- B. The time an activity can be delayed without delaying the project
- C. The time required to complete an activity
- D. The total project duration

✓ **Correct Answer: B**

Q14: If an activity has **zero slack**, it means:

- A. It can be delayed without affecting anything
- B. It is not part of the project schedule
- C. It lies on the critical path
- D. It can be done in any order

✓ **Correct Answer: C**

Q15: How is **total slack** typically calculated?

- A. Late Finish – Early Start
- B. Early Finish – Late Start
- C. Late Finish – Early Finish
- D. Late Start – Early Start

✓ **Correct Answer: D**

Q16: If an activity's **early start** is 4 and its **late start** is 10, what is its slack?

- A. 4
- B. 6
- C. 10
- D. 14

✓ **Correct Answer: B**

Q17: Activities that are **not on the critical path** usually have:

- A. No slack
- B. Zero duration
- C. Positive slack
- D. Negative float

✓ **Correct Answer: C**

Q18: If slack time is **negative**, it indicates:

- A. The activity is ahead of schedule
- B. The activity is not part of the project
- C. A scheduling conflict or delay beyond project limits
- D. The activity has float flexibility

✓ **Correct Answer: C**

Q19: What is the effect of reducing slack in a non-critical activity?

- A. It shortens the project duration
- B. It increases project cost
- C. It reduces schedule flexibility
- D. It affects the critical path

✓ **Correct Answer: C**

Q20: Which of the following will *not* increase slack in an activity?

- A. Extending the project deadline
- B. Delaying a predecessor activity
- C. Shortening a parallel critical activity
- D. Reducing the duration of the activity

✓ **Correct Answer: B**

Q21: What does it mean if an activity has a slack time of 5 days?

- A. It must start exactly 5 days after the project starts
- B. It can be delayed by up to 5 days without delaying the project
- C. It has 5 days to be completed
- D. It's on the critical path

✓ **Correct Answer: B**

Q22: Free float is defined as:

- A. The total time an activity can be delayed without affecting any successor activity
- B. The time between project start and activity start
- C. The difference between late start and early start

D. The slack shared by all activities

✓ **Correct Answer: A**

Q23: If activity A must finish before activity B can start, and A has zero free float, what does it imply?

- A. Activity A is not necessary
- B. Activity A is critical to B's schedule
- C. Activity B can be delayed
- D. Activity A has negative slack

✓ **Correct Answer: B**

PERT

Q24: PERT is primarily used to:

- A. Track project costs
- B. Estimate project durations with uncertainty
- C. Assign human resources
- D. Optimize material usage

✓ **Correct Answer: B**

Q25: Which of the following time estimates are used in PERT?

- A. Early, Late, and Actual times
- B. Shortest, Longest, and Average times
- C. Optimistic, Most Likely, and Pessimistic times
- D. Baseline, Actual, and Forecast times

✓ **Correct Answer: C**

Q26: What is the formula to calculate the expected time (TE) in PERT?

- A. $(O + M + P) / 3$
- B. $(O + 2M + P) / 4$
- C. $(O + 4M + P) / 6$
- D. $(O + P) / 2$

✓ **Correct Answer: C**

Q27: In PERT, what does "O" stand for in the expected time formula?

- A. Ordinary time
- B. Optional time
- C. Optimistic time

D. Operational time

✓ **Correct Answer: C**

Q28: In PERT, what does "P" represent?

- A. Practical time
- B. Pessimistic time
- C. Projected time
- D. Possible time

✓ **Correct Answer: B**

Q29: What does the **expected time (TE)** in PERT represent?

- A. The shortest time to complete the task
- B. The time with the least cost
- C. The most probable duration considering uncertainty
- D. The longest possible duration

✓ **Correct Answer: C**

Q30: What does PERT focus on more than CPM?

- A. Cost analysis
- B. Resource allocation
- C. Time variability and uncertainty
- D. Detailed task description

✓ **Correct Answer: C**

Q31: The main difference between PERT and CPM is:

- A. CPM is deterministic, PERT is probabilistic
- B. PERT uses only one time estimate, CPM uses three
- C. PERT ignores critical paths
- D. CPM is used only in manufacturing

✓ **Correct Answer: A**

Q32: In PERT, which distribution is used to model activity times?

- A. Normal
- B. Poisson
- C. Triangular
- D. Beta

✓ **Correct Answer: D**

Q33: Which of the following is an assumption of PERT?

- A. Activities are always completed on time

- B. Activity durations are fixed and known
- C. Activity durations are uncertain and follow a probability distribution
- D. Resources are unlimited

✓ **Correct Answer: C**

Q34: What is the variance of an activity in PERT if the optimistic time is 4, most likely is 6, and pessimistic is 10?

- A. 1
- B. 2.25
- C. 4
- D. 9

✓ **Correct Answer: A**

■ $Variance = ((P - O)/6)^2 = ((10 - 4)/6)^2 = (6/6)^2 = 1$

Q35: The standard deviation in PERT is used to:

- A. Calculate cost
- B. Determine critical path
- C. Measure the uncertainty of project duration
- D. Allocate resources

✓ **Correct Answer: C**

Q36: The standard deviation of an activity in PERT is calculated by:

- A. $(P + O) / 2$
- B. $(P - O) / 6$
- C. $(P - O) / 3$
- D. $(M - O) / 2$

✓ **Correct Answer: B**

Q37: If an activity has an optimistic time of 3 days and a pessimistic time of 9 days, what is its standard deviation in PERT?

- A. 1
- B. 2
- C. 3
- D. 6

✓ **Correct Answer: A**

■ $(9 - 3)/6 = 6/6 = 1$

Q38: In PERT, if the expected time of the critical path is 40 days and the standard deviation is 2, what is the probability the project will be completed in 44 days (assuming normal distribution)?

- A. About 84%

- B. About 97.5%
- C. About 50%
- D. About 99.9%

✓ **Correct Answer: B**

■ $Z = (44 - 40) / 2 = 2 \rightarrow P(Z \leq 2) \approx 97.5\%$

Q39: In project risk analysis using PERT, the **higher the standard deviation**, the:

- A. More reliable the estimate
- B. Less risk in the project
- C. Greater the uncertainty
- D. Shorter the completion time

✓ **Correct Answer: C**

Q40: A PERT chart is useful for:

- A. Listing tasks only
- B. Representing sequence and time uncertainty
- C. Assigning personnel
- D. Budget forecasting

✓ **Correct Answer: B**

Q41: When using PERT, the path with the highest expected duration is:

- A. Ignored
- B. Always the shortest path
- C. The critical path
- D. The path with the lowest cost

✓ **Correct Answer: C**

Q42: Which type of project benefits most from PERT?

- A. Routine and repetitive projects
- B. Projects with high uncertainty and research-based activities
- C. Small construction jobs
- D. Projects with fixed deadlines and tasks

✓ **Correct Answer: B**

Q43: In PERT, when the three time estimates are equal, the activity becomes:

- A. Uncertain
- B. Risky
- C. Deterministic
- D. Delayed

✓ **Correct Answer: C**

Q44: One of the main goals of PERT is to:

- A. Increase costs
- B. Shorten the path
- C. Improve accuracy in scheduling under uncertainty
- D. Ignore variability

✓ **Correct Answer: C**

Q45: If $TE = (O + 4M + P)/6$ and you are given $O = 3$, $M = 5$, $P = 9$, what is the expected time?

- A. 5
- B. 5.5
- C. 6
- D. 7

✓ **Correct Answer: B**

■ $(3 + 4 \times 5 + 9) / 6 = (3 + 20 + 9) / 6 = 32 / 6 = 5.33 \approx 5.5$

Q46: Which of the following is NOT an advantage of using PERT?

- A. Handles uncertainty in activity durations
- B. Useful in R&D projects
- C. Provides fixed estimates
- D. Helps in identifying critical activities

✓ **Correct Answer: C**

Q47: The PERT method assumes that activity time distributions are:

- A. Uniform
- B. Exponential
- C. Beta
- D. Normal

✓ **Correct Answer: C**

Q48: The **critical path in PERT** is defined based on:

- A. Total cost
- B. Least time variation
- C. Longest expected project duration
- D. Number of resources used

✓ **Correct Answer: C**

Q49: The result of summing variances along the critical path helps in:

- A. Calculating budget
- B. Finding resource needs

- C. Estimating project completion probability
- D. Identifying early start times

✓ **Correct Answer: C**

Q50: Which is true regarding variance in non-critical paths in PERT?

- A. They are added to project duration
- B. They are zero
- C. They do not directly affect project completion time
- D. They always determine cost

✓ **Correct Answer: C**

Q51: The main statistical output of PERT used to assess risk is:

- A. Net present value
- B. Variance and standard deviation of project duration
- C. Activity cost index
- D. Productivity rate

✓ **Correct Answer: B**

1. Why is learning project management important?

- a) It helps in achieving goals efficiently
- b) It increases project costs
- c) It slows down project execution
- d) It reduces project complexity

Answer: a

2. Which of the following is NOT a benefit of project management?

- a) Reducing waste of time and resources
- b) Improving quality of outcomes
- c) Increasing project uncertainty
- d) Avoiding chaos

Answer: c

3. Project management involves directing which of the following resources?

- a) Time, money, people
- b) Only time
- c) Only money
- d) None of the above

Answer: a

4. What is the first step in project management?

- a) Planning
- b) Directing
- c) Organizing
- d) Controlling

Answer: a

5. Which phase of project management involves defining the project idea and objectives?

- a) Project Planning
- b) Project Scheduling
- c) Project Initiation

d) Project Control

Answer: c

6. In project management, what does organizing involve?

a) Arranging resources and tasks

b) Creating a budget

c) Setting project goals

d) Evaluating results

Answer: a

7. What is an example of controlling in a project?

a) Hiring staff

b) Monitoring sales performance

c) Selecting the project idea

d) Conducting meetings

Answer: b

8. Why is project management critical in modern industries?

a) Due to increasing project complexity

b) Because projects no longer need planning

c) It allows unlimited use of resources

d) It reduces the importance of leadership

Answer: a

9. What is the primary objective of project planning?

a) To execute the project immediately

b) To outline what needs to be done, how, and when

c) To close the project

d) To ignore project risks

Answer: b

10. What does staffing in project management refer to?

a) Allocating labor to the project

b) Setting a project budget

c) Closing the project

d) Designing a blueprint

Answer: a

11. What is the role of leadership in project management?

a) Guiding and motivating the team

b) Ignoring team performance

c) Eliminating communication

d) Avoiding project deadlines

Answer: a

12. Which phase of project management involves evaluating the results?

a) Project Closure and Evaluation

b) Project Planning

c) Project Scheduling

d) Project Control

Answer: a

13. What does cost estimation in project management involve?

a) Calculating project expenses

b) Ignoring financial constraints

c) Reducing project efficiency

d) Increasing unnecessary expenditures

Answer: a

14. What is an example of project scheduling?

a) Setting deadlines for app testing

b) Closing the project

c) Ignoring resource allocation

d) Delaying the project indefinitely

Answer: a

15. Why is competition a reason for learning project management? a) Projects must be completed quickly and with high quality

- b) Competition is irrelevant in project management
- c) It increases project costs
- d) It reduces the need for efficiency

Answer: a

16. What happens in the execution phase of a project?

- a) The project plan is implemented
- b) The project is closed
- c) The project is ignored
- d) The team stops working

Answer: a

17. What is an example of directing in project management?

- a) Holding meetings to review progress
- b) Ignoring team communication
- c) Avoiding leadership
- d) Increasing project risks

Answer: a

18. Why is monitoring important in project management?

- a) To ensure adherence to the plan
- b) To delay project completion
- c) To avoid tracking progress
- d) To ignore team performance

Answer: a

19. What does the term "resources" include in project management?

- a) Time, money, people
- b) Only people
- c) Only money
- d) None of the above

Answer: a

20. What happens in project closure and evaluation?

- a) Reviewing project success and lessons learned
- b) Ignoring project feedback
- c) Restarting the project
- d) Increasing project budget

Answer: a

21. What is the primary purpose of project planning?

- a) To define goals and set strategies
- b) To execute tasks randomly
- c) To increase project costs
- d) To avoid scheduling

Answer: a

22. Which of the following is NOT a benefit of project planning?

- a) Better resource utilization
- b) Increased project risks
- c) Clarity of objectives
- d) Improved communication

Answer: b

23. What is Microsoft Project primarily used for?

- a) Playing games
- b) Scheduling, resource management, and monitoring project progress
- c) Video editing
- d) Writing documents

Answer: b

24. Which of the following is an advantage of Microsoft Project?

- a) High cost
- b) Complexity for beginners

- c) Collaboration support with Microsoft Teams
- d) Limited resource management

Answer: c

25. What is a disadvantage of Microsoft Project?
- a) Familiar interface
 - b) High cost
 - c) Integrated resource management
 - d) Collaboration support

Answer: b

26. What type of projects can Microsoft Project be used for?
- a) Mobile application development
 - b) Computer network deployment
 - c) Both a and b
 - d) None of the above

Answer: c

27. What is the primary purpose of MindMeister?
- a) Creating mind maps and visualizing ideas
 - b) Managing finances
 - c) Writing project reports
 - d) Running simulations

Answer: a

28. Which of the following is NOT an advantage of MindMeister?
- a) Real-time collaboration
 - b) Easy to use
 - c) Integration with Google Drive
 - d) Advanced project management functionalities

Answer: d

29. What is a practical example of using MindMeister?
- a) Smart home system design
 - b) Mobile game development

- c) Financial auditing
- d) Writing an article

Answer: a

30. What is project scheduling?

- a) Organizing tasks and milestones within a timeline
- b) Ignoring deadlines
- c) Randomly assigning tasks
- d) Avoiding project planning

Answer: a

31. What does a Gantt Chart represent?

- a) A visual timeline of project tasks
- b) A financial statement
- c) A coding platform
- d) A communication log

Answer: a

32. Who invented the Gantt Chart?

- a) Henry Gantt
- b) Bill Gates
- c) Steve Jobs
- d) Mark Zuckerberg

Answer: a

33. What is a disadvantage of a Gantt Chart?

- a) Difficult to modify in large projects
- b) Provides a clear project timeline
- c) Shows dependencies between tasks
- d) Easy to update automatically

Answer: a

34. Which tool is best for tracking project issues and bugs?

- a) JIRA

- b) Microsoft Word
- c) MindMeister
- d) Google Sheets

Answer: a

35. What is one advantage of using JIRA?

- a) Effective task and project management
- b) High cost for large enterprises
- c) Complexity for beginners
- d) Lack of integration with development tools

Answer: a

36. What is a disadvantage of JIRA? a) Fast bug tracking

- b) Complex for beginners
- c) Integration with GitHub
- d) Efficient task management

Answer: b

37. What type of project can JIRA be used for?

- a) ERP system development
- b) Video game development
- c) Both a and b
- d) None of the above

Answer: c

38. What is Power BI used for?

- a) Data analytics and reporting
- b) Writing code
- c) Creating animations
- d) Playing music

Answer: a

39. What is a benefit of Power BI?

- a) Real-time data updates
- b) High complexity

- c) Limited data integration
- d) High cost for all users

Answer: a

40. What is a disadvantage of Power BI? a) Complexity in creating advanced reports
- b) Visual data analysis
 - c) Real-time updates
 - d) Integration with multiple data sources

Answer: a

41. What does project control primarily focus on?
- a) Monitoring progress and making adjustments
 - b) Increasing project costs
 - c) Eliminating planning steps
 - d) Avoiding risk assessment

Answer: a

42. Which phase involves evaluating the project's success?
- a) Project Closure
 - b) Project Initiation
 - c) Project Scheduling
 - d) Project Execution

Answer: a

43. What is the main goal of project scheduling?
- a) Ensure tasks are completed on time
 - b) Ignore task dependencies
 - c) Increase project duration
 - d) Avoid planning

Answer: a

44. What is a key feature of project planning?
- a) Defining tasks and allocating resources
 - b) Delaying decisions
 - c) Ignoring deadlines

d) Avoiding documentation

Answer: a

45. What is a practical example of project control?

a) Monitoring software bugs in JIRA

b) Using Power BI for performance tracking

c) Both a and b

d) None of the above

Answer: c

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