Q1: Importance of Project Schedules

Answer:

- Managers often cite delivering projects on time as one of their biggest challenges
- Time has the least amount of flexibility; it passes no matter what happens on a project
- Schedule issues are the main reason for conflicts on projects, especially during the second half of projects

……

Q2: **Individual Work Styles and Cultural Differences Cause Schedule Conflicts**

Answer:

- One dimension of the Meyers-Briggs Type Indicator focuses on peoples' attitudes toward structure and deadline
- Some people prefer to follow schedules and meet deadlines while others do not (J vs. P)
- Difference cultures and even entire countries have different attitudes about schedules

……

Q3: Three parts include:

Answer:

1. **Planning schedule management**
2. **Defining activities**
3. **Sequencing activities**
4. **Estimating activity resources**
5. **Estimating activity durations**
6. **Developing the schedule**
7. **Controlling the schedule**

……

Q4: **Planning schedule management**

Answer:

- determining the policies, procedures, and documentation that will be used for planning, executing, and controlling the project schedule

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Q5: **Defining activities**

Answer:

- identifying the specific activities that the project team members and stakeholders must perform to produce the project deliverables

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Q6: Sequencing activities

Answer:

- identifying and documenting the relationships between project activities

……..

Q7: **Estimating activity resources**

Answer:

- estimating how many resources a project team should use to perform project activities

……

Q8: Estimating activity durations

Answer:

- estimating the number of work periods that are needed to complete individual activities

……

Q9: Developing the schedule
Answer:

- analyzing activity sequences, activity resource estimates, and activity duration estimates to create the project schedule

……

Q10: Controlling the schedule
Answer:

- controlling and managing changes to the project schedule

……

Q11: **Project Time Management Summary**
Answer:

1. Planning
2. Monitoring and Controlling

……

Q12: Planning

Answer:

- Process: Plan schedule management
- Outputs: Schedule management plan
- Process: Define activities
- Outputs: Activity list, activity attributes, milestone list, project management plan updates
- Process: Sequence activities
- Outputs: Project schedule network diagrams, project documents updates
- Process: Estimate activity resources

- Outputs: Activity resource requirements, resource breakdown structure, project documents updates
- Process: Estimate activity durations
- Outputs: Activity duration estimates, project documents updates
- Process: Develop schedule
- Outputs: Schedule baseline, project schedule, schedule data, project calendars, project management plan updates, project documents updates

……

Q13: Monitoring and Controlling

Answer:

- Process: Control schedule
- Outputs: Work performance information, schedule forecasts, change requests, project management plan updates, project documents updates, organizational process assets updates

……

Q14: **why The project team uses expert judgment, analytical techniques, and meetings**

Answer:

- to develop the schedule management plan

……

Q15: A schedule management plan includes:

Answer:

1. Project schedule model development
2. The scheduling methodology
3. Level of accuracy and units of measure
4. Control thresholds
5. Rules of performance measurement
6. Reporting formats
7. Process descriptions

……

Q16: **An activity or task**

Answer:

- is an element of work normally found on the work breakdown structure (WBS) that has an expected duration, a cost, and resource requirements

……

Q17: **why Activity definition involves developing a more detailed WBS and supporting explanations to understand all the work to be done**
Answer:

- so you can develop realistic cost and duration estimates

……

Q18: An activity list
Answer:

- is a tabulation of activities to be included on a project schedule

……

Q19: **project schedule that includes**
Answer:

1. the activity name
2. an activity identifier or number
3. a brief description of the activity

……

Q20: Activity attributes provide more information
Answer:

1. predecessors,
2. successors,
3. logical relationships,
4. leads and lags,
5. resource requirements,
6. constraints,
7. imposed dates,
8. and assumptions related to the activity

……

Q21: A milestone
Answer:
is a significant event that normally has no duration.
……
Q22: **Note** milestone
Answer:

- It often takes several activities and a lot of work to complete a milestone
- They’re useful tools for setting schedule goals and monitoring progress
- Examples include obtaining customer sign-off on key documents or completion of specific products

……

Q23: **Sequencing Activities**

Answer:

- Involves reviewing activities and determining dependencies
- A dependency or relationship
- You must determine dependencies in order to use critical path analysis

……

Q24: A dependency or relationship

Answer:

- is the sequencing of project activities or tasks

……

Q25 : Three types of Dependencies

Answer:

1. Mandatory dependencies
2. Discretionary dependencies
3. External dependencies

……

Q26: **Mandatory dependencies**

Answer:

- inherent in the nature of the work being performed on a project, sometimes referred to as hard logic

……

Q27: Discretionary dependencies

Answer:

- defined by the project team., sometimes referred to as soft logic and should be used with care since they may limit later scheduling options

……

Q28: External dependencies

Answer:

- involve relationships between project and non-project activities

……

Q29: Network diagrams
Answer:

- are the preferred technique for showing activity sequencing

……

Q30: A network diagram
Answer:

- is a schematic display of the logical relationships among, or sequencing of, project activities

……

Q31: Two main formats are
Answer:

1. the arrow diagramming methods
2. precedence diagramming methods

……

Q32: Arrow Diagramming Method (ADM)
Answer:

- Also called activity-on-arrow (AOA) network diagrams
- Activities are represented by arrows
- Nodes or circles
- Can only show finish-to-start dependencies

……

Q33: Nodes or circles
Answer:
are the starting and ending points of activities

……

Q34: **Process for Creating AOA Diagrams**
Answer:

1. Find all of the activities that start at node 1. Draw their finish nodes and draw arrows between node 1 and those finish nodes. Put the activity letter or name and duration estimate on the associated arrow

2. Continuing drawing the network diagram, working from left to right. Look for bursts and merges. **Bursts** occur when a single node is followed by two or more activities. A **merge** occurs when two or more nodes precede a single node

3. Continue drawing the project network diagram until all activities are included on the diagram that have dependencies

4. As a rule of thumb, all arrowheads should face toward the right, and no arrows should cross on an AOA network diagram

……

Q35: Precedence Diagramming Method (PDM)

Answer:

- Activities are represented by boxes
- Arrows show relationships between activities
- More popular than ADM method and used by project management software
- Better at showing different types of dependencies

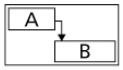
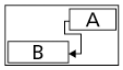
……

Q36: **Task Dependency Types**

Answer:

Task dependencies

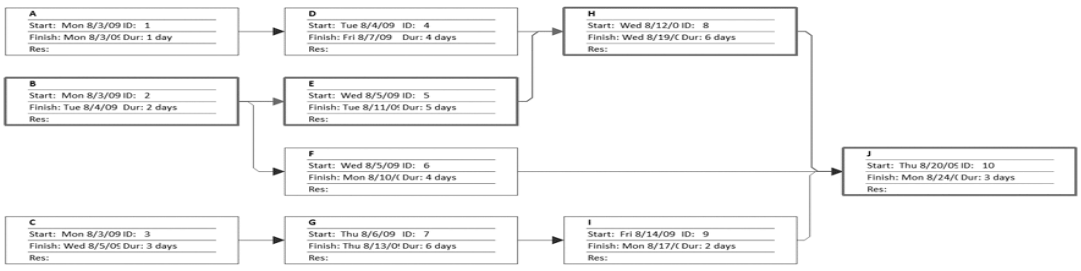
The nature of the relationship between two linked tasks. You link tasks by defining a dependency between their finish and start dates. For example, the "Contact caterers" task must finish before the start of the "Determine menus" task. There are four kinds of task dependencies in Microsoft Project.

Task dependency	Example	Description
Finish-to-start (FS)		Task (B) cannot start until task (A) finishes.
Start-to-start (SS)		Task (B) cannot start until task (A) starts.
Finish-to-finish (FF)		Task (B) cannot finish until task (A) finishes.
Start-to-finish (SF)		Task (B) cannot finish until task (A) starts.

……

Q37: **Sample PDM Network Diagram**

Answer:



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Q38: Estimating Activity Resources
Answer:
Before estimating activity durations, you must have a good idea of the quantity and type of resources that will be assigned to each activity; resources are people, equipment, and materials

……

Q39: Consider important issues in estimating resources
Answer:

- How difficult will it be to do specific activities on this project?
- What is the organization's history in doing similar activities?
- Are the required resources available?

……

Q40: A resource breakdown structure

Answer:

is a hierarchical structure that identifies the project's resources by category and type

……

Q41: Activity Duration Estimating
Answer:

- Duration includes the actual amount of time worked on an activity plus elapsed time
- Effort does not normally equal duration
- People doing the work should help create estimates, and an expert should review them

……

Q42: Effort

Answer:

- is the number of workdays or work hours required to complete a task

……

Q43: Three-Point Estimates

Answer:

- Instead of providing activity estimates as a discrete number, such as four weeks, it's often helpful to create a three-point estimate
- an estimate that includes an optimistic, most likely, and pessimistic estimate, such as three weeks for the optimistic, four weeks for the most likely, and five weeks for the pessimistic estimate

- Three-point estimates are needed for PERT and Monte Carlo simulations

……

Q44: Developing the Schedule

Answer:

- Uses results of the other time management processes to determine the start and end date of the project
- Ultimate goal
- Important tools and techniques include Gantt charts, critical path analysis, and critical chain scheduling, and PERT analysis

……

Q45: why Uses results of the other time management processes

Answer:

- to determine the start and end date of the project

……

Q46: Ultimate goal

Answer:

- is to create a realistic project schedule that provides a basis for monitoring project progress for the time dimension of the project

……

Q47: Note Gantt Charts

Answer:

- Gantt charts provide a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a calendar format

……

Q48: Symbols include:

Answer:

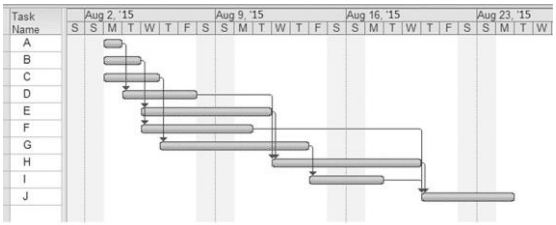
- A black diamond: a milestones
- Thick black bars: summary tasks
- Lighter horizontal bars: durations of tasks
- Arrows: dependencies between tasks

……

Gantt Chart for Project X

Q49: **Gantt Chart for Project X**

Answer:



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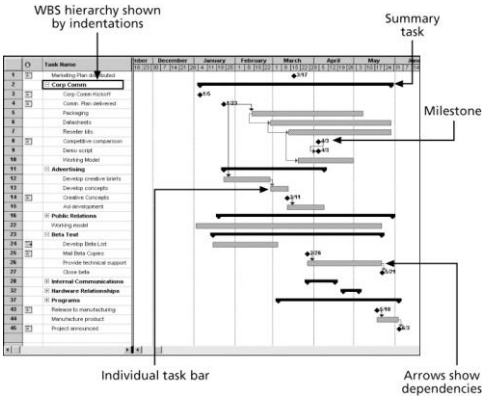
Q50: **Gantt Chart for Software Launch Project**

Answer:



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Q51: Adding Milestones to Gantt Charts

Answer:

1. Many people like to focus on meeting milestones, especially for large projects
2. Milestones emphasize important events or accomplishments on projects
3. Normally create milestone by entering tasks with a zero duration, or you can mark any task as a milestone

……

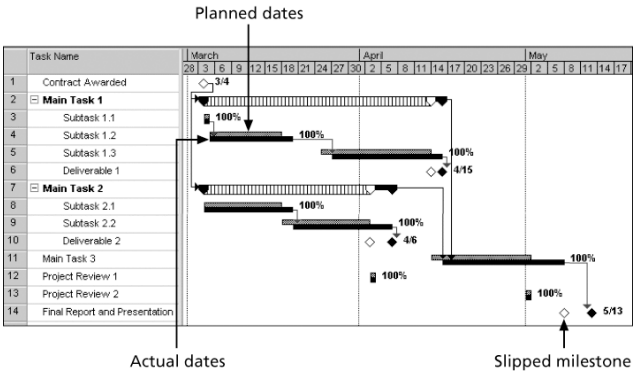
Q52: Milestones should be

Answer:

1. Specific
2. Measurable
3. Assignable
4. Realistic
5. Time-framed

……

Q53: Sample Tracking Gantt Chart
Answer:



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Q54: **CPM**
Answer:

- is a network diagramming technique used to predict total project duration

……..

Q55: **A critical path for a project**

Answer:

- is the series of activities that determines the earliest time by which the project can be completed

……..

Q56: **The critical path**

Answer:

- is the longest path through the network diagram and has the least amount of slack or float

……

Q57: Slack or float

Answer:

- is the amount of time an activity may be delayed without delaying a succeeding activity or the project finish date

……

Q58: Calculating the Critical Path
Answer:

1. First develop a good network diagram

2. Add the duration estimates for all activities on each path through the network diagram
3. The longest path is the critical path
4. If one or more of the activities on the critical path takes longer than planned, the whole project schedule will slip unless the project manager takes corrective action

……

Q59: **Note More on the Critical Path**
Answer:

- The critical path is not the one with all the critical activities; it only accounts for time
- There can be more than one critical path if the lengths of two or more paths are the same
- The critical path can change as the project progresses

……

Q60: Using Critical Path Analysis to Make Schedule Trade-offs

Answer:

- Free slack or free float
- Total slack or total float
- A forward pass through the network diagram determines the early start and finish dates
- A backward pass determines the late start and finish dates

……

Q61: **Free slack or free float**

Answer:

- is the amount of time an activity can be delayed without delaying the early start of any immediately following activities

……

Q62: Total slack or total float

Answer:

- is the amount of time an activity may be delayed from its early start without delaying the planned project finish date

……

Q63: Three main techniques for shortening schedules
Answer:

1. Shortening durations of critical activities/tasks by adding more resources or changing their scope
2. Crashing activities by obtaining the greatest amount of schedule compression for the least incremental cost
3. Fast tracking activities by doing them in parallel or overlapping them

……

Q64: **Importance of Updating Critical Path Data**

Answer:

1. It is important to update project schedule information to meet time goals for a project
2. The critical path may change as you enter actual start and finish dates
3. If you know the project completion date will slip, negotiate with the project sponsor

……

Q65: Critical chain scheduling
Answer:

- a method of scheduling that considers limited resources when creating a project schedule and includes buffers to protect the project completion date
- Uses the Theory of Constraints (TOC)
- Attempts to minimize multitasking
    - when a resource works on more than one task at a time

……

Q66: **A buffer**
Answer:

- is additional time to complete a task

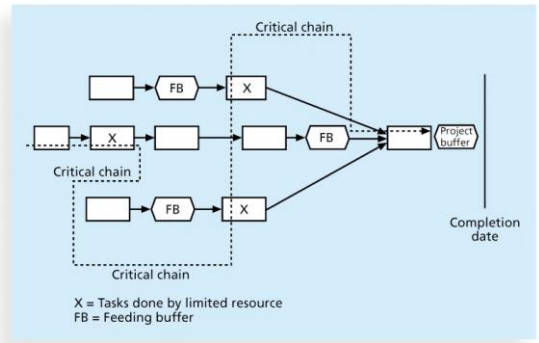
……

Q67: what does Critical chain scheduling
Answer:

- removes buffers from individual tasks and instead creates
    - a project buffer or additional time added before the project's due date
    - feeding buffers or additional time added before tasks on the critical path

……

Q68: **Example of Critical Chain Scheduling**
Answer:



……

Q69: Program Evaluation and Review Technique (PERT)

Answer:

- is a network analysis technique used to estimate project duration when there is a high degree of uncertainty about the individual activity duration estimates

……

Q70: **what does PERT uses**
Answer:

- uses probabilistic time estimates
  - duration estimates based on using optimistic, most likely, and pessimistic estimates of activity durations, or a three-point estimate

……

Q71: **PERT Formula**

Answer:

- PERT weighted average **=**

$$\frac{\text{optimistic time} + 4\text{X most likely time} + \text{pessimistic time}}{6}$$

……

Q72: **Core values of the Manifesto for Agile Software Development are**

1. Customer collaboration over contract negotiation
2. Responding to change over following a plan

……

Q73: **Note Agile and Time Management**
Answer:

- The product owner defines and prioritizes the work to be done within a spring, so collaboration and time management are designed into the process

- Teams focus on producing a useful product in a specified timeframe with strong customer input
- Don’t emphasize defining all the work before scheduling it

……..

Q74: **Schedule Control Suggestions**

Answer:

1. Perform reality checks on schedules
2. Allow for contingencies
3. Don’t plan for everyone to work at 100% capacity all the time
4. Hold progress meetings with stakeholders and be clear and honest in communicating schedule issues

……..

Q75: **Goals**

Answer:

- are to know the status of the schedule, influence factors that cause schedule changes, determine that the schedule has changed, and manage changes when they occur

……

Q76: what does include Tools and techniques

Answer:

1. Progress reports
2. A schedule change control system
3. Project management software, including schedule comparison charts like the tracking Gantt chart
4. Variance analysis, such as analyzing float or slack
5. Performance management

……

Q77: Reality Checks on Scheduling

Answer:

1. First review the draft schedule or estimated completion date in the project charter
2. Prepare a more detailed schedule with the project team
3. Make sure the schedule is realistic and followed
4. Alert top management well in advance if there are schedule problems

……

Q78: Project managers should use

Answer:

1. empowerment

2. incentives
3. discipline
4. negotiation

……

Q79: **Note Working with People Issues**
Answer:

- Strong leadership helps projects succeed more than good PERT charts

……

Q80: **Using Software to Assist in Time Management**

Answer:
1. Software for facilitating communications helps people exchange schedule-related information
2. Decision support models help analyze trade-offs that can be made
3. Project management software can help in various time management areas

……

Q81: Words of Caution on Using Project Management Software

Answer:
- Many people misuse project management software because they don't understand important concepts and have not had training
- You must enter dependencies to have dates adjust automatically and to determine the critical path
- You must enter actual schedule information to compare planned and actual progress

……