

考试

2016年12月1日 9:44

选择题

填空题

简答题：20-25

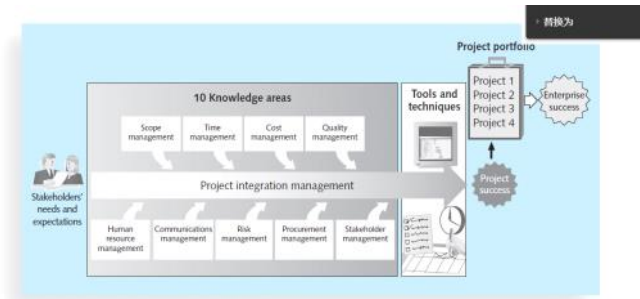
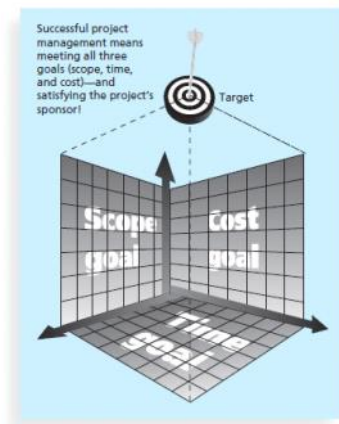
计算题：补充过依赖关系的题目，一定是要考的（时间管理）
25-30

分析题：20-25

题目是英文

给你一些案例，然后分析 采取这样的形式

the project manager, who sees projects with costs and risks as targets and manages them as targets. Projects involve uncertainty and limited resources, projects rarely finish according to their original scope, time, and cost goals. Instead of discrete target goals, it is often more realistic to set a range of goals, such as spending between \$45,000 and \$50,000 and having a 40- to 50-page report. These goals might mean hitting the target, but not the bull's eye.



什么是pmp

Table3-1

Figure4-1

第四章：

Financial Analysis of Projects

- Three primary methods for determining the projected financial value of projects:
 - Net present value (NPV) analysis
 - Return on investment (ROI)
 - Payback analysis

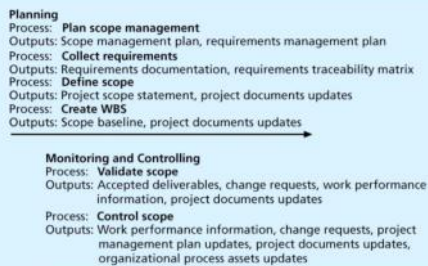
Performing Integrated Change Control

- ▶ Three main objectives are:
 - Influencing the factors that create changes to ensure that changes are beneficial
 - Determining that a change has occurred
 - Managing actual changes as they occur

第五章

非常重要的：wbs

Figure 5-1. Project Scope Management Summary



Creating the Work Breakdown Structure (WBS)

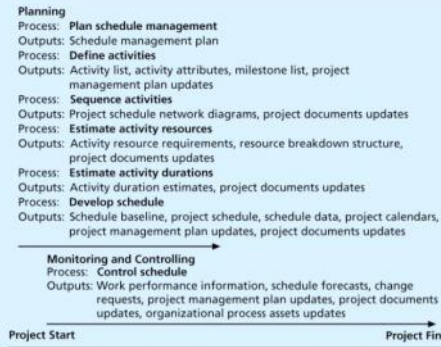
- ▶ A **WBS** is a deliverable-oriented grouping of the work involved in a project that defines the total scope of the project
- ▶ **Decomposition** is subdividing project deliverables into smaller pieces
- ▶ A **work package** is a task at the lowest level of the WBS
- ▶ The **scope baseline** includes the approved project scope statement and its associated WBS and WBS dictionary

Approaches to Developing WBSs

- ▶ Using guidelines: Some organizations, like the DOD, provide guidelines for preparing WBSs
- ▶ The **analogy approach**: Review WBSs of similar projects and tailor to your project
- ▶ The **top-down approach**: Start with the largest items of the project and break them down
- ▶ The **bottom-up approach**: Start with the specific tasks and roll them up
- ▶ Mind-mapping approach: **Mind mapping** is a technique that uses branches radiating out from a core idea to structure thoughts and ideas

第六章：重头戏

Figure 6-1. Project Time Management Summary



AON AOA

Precedence Diagramming Method (PDM)

- ▶ 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

四中关系要会画

Activity Duration Estimating

- ▶ **Duration** includes the actual amount of time worked on an activity *plus* elapsed time
- ▶ **Effort** is the number of workdays or work hours required to complete a task
- ▶ Effort does not normally equal duration

Gantt Charts

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

怎么找关键路径？

这一张占的比例很大

Using Critical Path Analysis to Make Schedule Trade-offs

- ▶ **Free slack** or **free float** is the amount of time an activity can be delayed without delaying the early start of any immediately following activities
- ▶ **Total slack** or **total float** is the amount of time an activity may be delayed from its early start without delaying the planned project finish date
- ▶ A **forward pass** through the network diagram determines the early start and finish dates
- ▶ A **backward pass** determines the late start and finish dates

Using the Critical Path to Shorten a Project Schedule

- ▶ Three main techniques for shortening schedules
 - Shortening durations of critical activities/tasks by adding more resources or changing their scope
 - **Crashing** activities by obtaining the greatest amount of schedule compression for the least incremental cost
 - **Fast tracking** activities by doing them in parallel or overlapping them

Critical Chain Scheduling

- ▶ **Critical chain scheduling**
 - 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)**
 - a management philosophy developed by Eliyahu M. Goldratt and introduced in his book *The Goal*.
- ▶ Attempts to minimize **multitasking**
 - when a resource works on more than one task at a time

Program Evaluation and Review Technique (PERT)

- ▶ **PERT** is a network analysis technique used to estimate project duration when there is a high degree of uncertainty about the individual activity duration estimates
- ▶ PERT uses **probabilistic time estimates**
 - duration estimates based on using optimistic, most likely, and pessimistic estimates of activity durations, or a three-point estimate

牵扯计算

Basic Principles of Cost Management

- **Profits** are revenues minus expenditures
- **Profit margin** is the ratio of revenues to profits
- **Life cycle costing** considers the total cost of ownership, or development plus support costs, for a project
- **Cash flow analysis** determines the estimated annual costs and benefits for a project and the resulting annual cash flow

Types of Costs and Benefits

- ▶ **Tangible costs or benefits** are those costs or benefits that an organization can easily measure in dollars
- ▶ **Intangible costs or benefits** are costs or benefits that are difficult to measure in monetary terms
- ▶ **Direct costs** are costs that can be directly related to producing the products and services of the project
- ▶ **Indirect costs** are costs that are not directly related to the products or services of the project, but are indirectly related to performing the project
- ▶ **Sunk cost** is money that has been spent in the past; when deciding what projects to invest in or continue, you should *not* include sunk costs

More Basic Principles of Cost Management

- ▶ **Learning curve theory** states that when many items are produced repetitively, the unit cost of those items decreases in a regular pattern as more units are produced
- ▶ **Reserves** are dollars included in a cost estimate to mitigate cost risk
 - **Contingency reserves** allow for future situations that may be partially planned for (sometimes called **known unknowns**) and are included in the project cost baseline
 - **Management reserves** allow for future situations that are unpredictable (sometimes called **unknown unknowns**)

Table 7-2. Types of Cost Estimates

TYPE OF ESTIMATE	WHEN DONE	WHY DONE	HOW ACCURATE
Rough Order of Magnitude (ROM)	Very early in the project life cycle, often 3–5 years before project completion	Provides estimate of cost for selection decisions	–50% to +100%
Budgetary	Early, 1–2 years out	Puts dollars in the budget plans	–10% to +25%
Definitive	Later in the project, less than 1 year out	Provides details for purchases, estimates actual costs	–5% to +10%

Cost Estimation Tools and Techniques

- ▶ Basic tools and techniques for cost estimates:
 - **Analogous or top-down estimates:** use the actual cost of a previous, similar project as the basis for estimating the cost of the current project
 - **Bottom-up estimates:** involve estimating individual work items or activities and summing them to get a project total
 - **Parametric modeling** uses project characteristics (parameters) in a mathematical model to estimate project costs, COCOMO

书上有案例，把案例看懂

Determining the Budget

- ▶ Cost budgeting involves allocating the project cost estimate to individual work items over time
- ▶ Important goal is to produce a **cost baseline**
 - a time-phased budget that project managers use to measure and monitor cost performance

什么事成本基线

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Information Technology Project Management, 5th Edition

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Earned Value Management (EVM)

► EVM is a project performance measurement technique that integrates scope, time, and cost data

evm如何计算

Table 7-4. Earned Value Calculations for One Activity After Week One

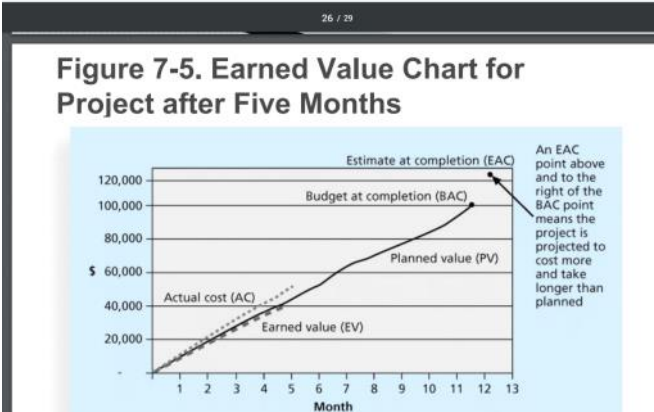
ACTIVITY	WEEK 1
Earned Value (EV)	5,000
Planned Value (PV)	10,000
Actual Cost (AC)	15,000
Cost Variance (CV)	-10,000
Schedule Variance (SV)	-5,000
Cost Performance Index (CPI)	33%
Schedule Performance Index (SPI)	50%

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Table 7-5. Earned Value Formulas

Term	Formula
Earned value (EV)	$EV = PV \text{ to date} \times RP$
Cost variance (CV)	$CV = EV - AC$
Schedule variance (SV)	$SV = EV - PV$
Cost performance index (CPI)	$CPI = EV/AC$
Schedule performance index (SPI)	$SPI = EV/PV$
Estimate at completion (EAC)	$EAC = BAC/CPI$
Estimated time to complete	Original time estimate/SPI

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要能看懂这个图

Scope Aspects of IT Projects

- › **Functionality** is the degree to which a system performs its intended function
- › **Features** are the system's special characteristics that appeal to users
- › **System outputs** are the screens and reports the system generates
- › **Performance** addresses how well a product or service performs the customer's intended use
- › **Reliability** is the ability of a product or service to perform as expected under normal conditions
- › **Maintainability** addresses the ease of performing maintenance on a product

Cause-and-Effect Diagrams

- › **Cause-and-effect diagrams** trace complaints about quality problems back to the responsible production operations
- › They help you find the root cause of a problem
- › Also known as **fishbone** or **Ishikawa diagrams**

The Seven Run Rule

- › The **seven run rule** states that if seven data points in a row are all below the mean, above the mean, or are all increasing or decreasing, then the process needs to be examined for non-random problems

Checksheets

- › A checksheet is used to collect and analyze data
- › It is sometimes called a tally sheet or checklist, depending on its format

Scatter diagram

- › A **scatter diagram** helps to show if there is a relationship between two variables
- › The closer data points are to a diagonal line, the more closely the two variables are related

Basic Information on Six Sigma

- ▶ The target for perfection is the achievement of no more than **3.4 defects per million opportunities**
- ▶ Six Sigma projects normally follow a five-phase improvement process called DMAIC

Six 9s of Quality

- ▶ **Six 9s of quality** is a measure of quality control equal to 1 fault in 1 million opportunities

Types of Tests

- ▶ **Unit testing** tests each individual component (often a program) to ensure it is as defect-free as possible
- ▶ **Integration testing** occurs between unit and system testing to test functionally grouped components
- ▶ **System testing** tests the entire system as one entity
- ▶ **User acceptance testing** is an independent test performed by end users prior to accepting the delivered system

Modern Quality Management

- ▶ Modern quality management:
 - Requires customer satisfaction
 - Prefers prevention to inspection
 - Recognizes management responsibility for quality
- ▶ Noteworthy quality experts include Deming, Juran, Crosby, Ishikawa, Taguchi, and Feigenbaum

这三个理念要了解

Iso90003是什么

Downloads/ch08.pdf

Improving Information Technology Project Quality

- ▶ Several suggestions for improving quality for IT projects include:
 - Establish leadership that promotes quality
 - Understand the cost of quality
 - Focus on organizational influences and workplace factors that affect quality
 - Follow maturity models

问答题会出这个

The Cost of Quality

- ▶ The **cost of quality** is the cost of conformance plus the cost of nonconformance
 - **Conformance** means delivering products that meet requirements and fitness for use
 - **Cost of nonconformance** means taking responsibility for failures or not meeting quality expectations

第九章

Keys to Managing People

- ▶ Important areas related to project management include
 - motivation theories
 - influence and power
 - effectiveness

Intrinsic and Extrinsic Motivation

- ▶ **Intrinsic motivation** causes people to participate in an activity for their own enjoyment
- ▶ **Extrinsic motivation** causes people to do something for a reward or to avoid a penalty

Maslow's Hierarchy of Needs

- ▶ Abraham Maslow argued that humans possess unique qualities that enable them to make independent choices, thus giving them control of their destiny

McGregor's Theory X and Y

- ▶ Douglas McGregor popularized the human relations approach to management in the 1960s
- ▶ Theory X: assumes workers dislike and avoid work, so managers must use coercion, threats and various control schemes to get workers to meet objectives
- ▶ Theory Y: assumes individuals consider work as natural as play or rest and enjoy the satisfaction of esteem and self-actualization needs
- ▶ Theory Z: introduced in 1981 by William Ouchi and

Ways to Influence that Help and Hurt Projects

- ▶ Projects are more likely to *succeed* when project managers influence with
 - expertise
 - work challenge
- ▶ Projects are more likely to *fail* when project managers rely too heavily on
 - authority
 - money
 - penalty

细节上会考 做出一些选择

Resource Loading

- ▶ **Resource loading** refers to the amount of individual resources an existing schedule requires during specific time periods
- ▶ **Overallocation** means more resources than are available are assigned to perform work at a given time

Resource Leveling

- ▶ **Resource leveling** is a technique for resolving resource conflicts by delaying tasks

树上的例子看一下

Tuckman Model of Team Development

- ▶ Forming
- ▶ Storming
- ▶ Norming
- ▶ Performing
- ▶ Adjourning

团队开发的流程要知道

Meyers-Briggs Type Indicator (MBTI)

- ▶ MBTI is a popular tool for determining personality preferences and helping teammates understand each other
- ▶ Four dimensions include:
 - Extrovert/Introvert (E/I)
 - Sensation/Intuition (S/N)
 - Thinking/Feeling (T/F)
 - Judgment/Perception (J/P)

知道mbti的分类就行了 不用知道细节

Social Styles Profile

- ▶ People are perceived as behaving primarily in one of four zones, based on their assertiveness and responsiveness:
 - Drivers
 - Expressives
 - Analyticals
 - Amiables
- ▶ People on opposite corners (drivers and amiables, analyticals and expressives) may have difficulties getting along

对角线.....

Five Dysfunctions of a Team

- ▶ The five dysfunctions of teams are
 1. Absence of trust
 2. Fear of conflict
 3. Lack of commitment
 4. Avoidance of accountability
 5. Inattention to results

人力资源很多细节的内容会在选择题里出现

第十章：沟通渠道的计算要懂

Classifications for Communication Methods

- ▶ *Interactive communication:*
- ▶ *Push communication:*
- ▶ *Pull communication:*

Reporting Performance

Performance reporting keeps stakeholders informed about how resources are being used to achieve project objectives

- **Status reports** describe where the project stands at specific point in time
- **Progress reports** describe what the project team has accomplished during a certain period of time
- **Forecasts** predict future project status and progress on past information and trends

选择题出

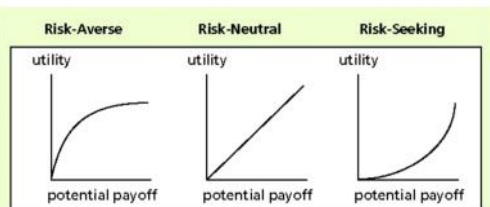
Suggestions for Improving Project Communications

- Develop better communication skills
- Run effective meetings
- Use e-mail and other technologies effectively
- Use templates for project communications

简答题

第十一章：分为负面风险和正面风险

Figure 11-2. Risk Utility Function and Risk Preference



要理解

Table 11-3. IT Success Potential Scoring Sheet

Success Criterion	Relative Importance
User Involvement	19
Executive Management support	16
Clear Statement of Requirements	15
Proper Planning	11
Realistic Expectations	10
Smaller Project Milestones	9
Competent Staff	8
Ownership	6

Broad Categories of Risk

- Market risk
- Financial risk
- Technology risk
- People risk
- Structure/process risk

Risk Breakdown Structure

- ▶ A **risk breakdown structure** is a hierarchy of potential risk categories for a project

Probability/Impact Matrix

- ▶ A **probability/impact matrix** or **chart** lists the relative probability of a risk occurring on one side of a matrix or axis on a chart and the relative impact of the risk occurring on the other

Top Ten Risk Item Tracking

- ▶ **Top Ten Risk Item Tracking** is a qualitative risk analysis tool that helps to identify risks and maintain an awareness of risks throughout the life of a project

Performing Quantitative Risk Analysis

- ▶ Large, complex projects involving leading edge technologies often require extensive quantitative risk analysis
- ▶ Main techniques include:
 - Decision tree analysis
 - Simulation
 - Sensitivity analysis

决策树牵扯计算

Steps of a Monte Carlo Analysis

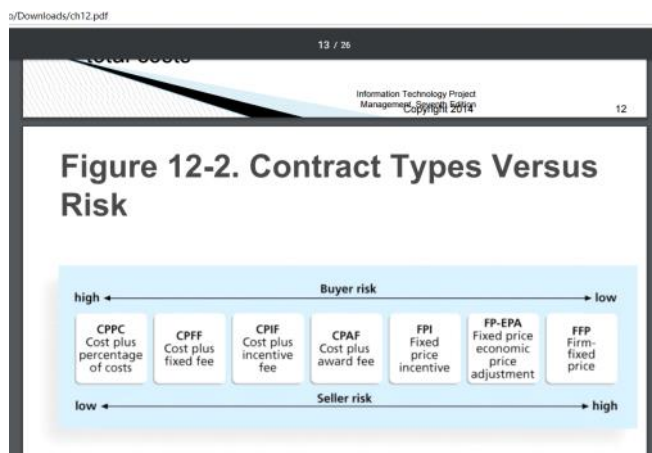
1. Assess the range for the variables being considered
2. Determine the probability distribution of each variable
3. For each variable, select a random value based on the probability distribution
4. Run a deterministic analysis or one pass through the model
5. Repeat steps 3 and 4 many times to obtain the probability distribution of the model's results

流程要记下来

Planning Risk Responses

- ▶ After identifying and quantifying risks, you must decide how to respond to them
- ▶ Four main response strategies for negative risks:
 - Risk avoidance
 - Risk acceptance
 - Risk transference
 - Risk mitigation

为什么要外购 选择题会出现



哪一种对卖家风险低 哪一种对买家风险低

Rfp rffq

Procurement Documents

- ▶ **Request for Proposals:** Used to solicit proposals from prospective sellers
 - A **proposal** is a document prepared by a seller when there are different approaches for meeting buyer needs
- ▶ **Requests for Quotes:** Used to solicit quotes or bids from prospective suppliers
 - A **bid**, also called a tender or quote (short for quotation), is a document prepared by sellers providing pricing for standard items that have been clearly defined by the buyer

Conducting Procurements

- ▶ Deciding whom to ask to do the work
- ▶ Sending appropriate documentation to potential sellers
- ▶ Obtaining proposals or bids
- ▶ Selecting a seller
- ▶ Awarding a contract

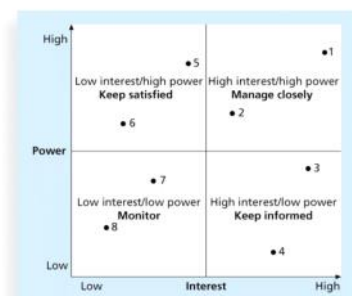
采购的过程要记一下

Table 13-1. Sample Stakeholder Register

Name	Position	Internal/ External	Project Role	Contact Information
Stephen	VP of Operations	Internal	Project sponsor	stephen@globaloil.com
Betsy	CFO	Internal	Senior manager, approves funds	betsy@globaloil.com
Chien	CIO	Internal	Senior manager, PM's boss	chien@globaloil.com
Ryan	IT analyst	Internal	Team member	ryan@globaloil.com
Lori	Director, Accounting	Internal	Senior manager	lori@globaloil.com
Sanjay	Director, Refineries	Internal	Senior manager of largest refinery	sanjay@globaloil.com
Debra	Consultant	External	Project manager	debra@gmail.com
Suppliers	Suppliers	External	Supply software	suppliers@gmail.com

这个表应该包含什么内容？

Figure 13-2. Power/Interest Grid



Stakeholder Engagement Levels

- ▶ Unaware: Unaware of the project and its potential impacts on them
- ▶ Resistant: Aware of the project yet resistant to change
- ▶ Neutral: Aware of the project yet neither supportive nor resistant
- ▶ Supportive: Aware of the project and supportive of change
- ▶ Leading: Aware of the project

Stackholder 给你一个项目 让你找出stackholder