

第 11 章

计算机专业英语

本章导读:

计算机专业英语是数据库系统工程师考试的重点内容之一。考题一般为完形填空,难度略高于大学英语四级,题材限于计算机领域的文化读物。备考这部分考试内容主要是靠平时对英语知识的积累,应该多读计算机报刊和杂志上的时文,了解计算机领域的最新信息,积累语言知识,训练阅读能力。此外,不要仅局限于对本专业领域词汇的记忆,还应该注意非计算机领域的一些常用词汇、相关的固定搭配和短语、相关的语法等,总结出适合于自己的一些解题技巧。

学习要点:

- ① 掌握计算机技术的基本词汇。
- ② 能正确阅读和理解计算机领域的英文资料。

11.1 专业英语试题特点

通过对历年试题的分析,可以看出数据库系统工程师考试中专业英语这部分题目有如下特点。

① 从 2007 年上半年考试开始,专业英语试题分量减少,从以前的 2 段文章 10 个空减少到 1 段文章 5 个空。

② 考查考生是否具备一定的专业知识背景。例如,2009 年上半年考查的是统一建模语言 (Unified Modeling Language, UML) 的相关知识,2008 年上半年考查的是面向对象分析 (object-oriented analysis) 的相关知识,2007 年下半年考查的是 Rational 统一过程 (Rational Unified Process, RUP) 的相关知识。

③ 考查考生是否具备一定的英语基础,认识相关的专业词汇,掌握常见的英语语法知识,能读懂长句。如 2005 年上半年试题 66 ~ 70 中的首句为:DOM is a platform-and language (66) API that allows programs and scripts to dynamically access and update the content, structure and style of WWW documents (currently, definitions for HTML and XML documents are part of the specification)。

④ 考查内容是计算机领域时文。例如,2005 年上半年试题 71 ~ 75 考查的 Melissa、LoveLetter 病毒原理。

11.2 试题分析

1. MIDI enables people to use (1) computers and electronic musical instruments. There are

actually three components to MIDI, the communications (2), the hardware interface and a distribution (3) called "Standard MIDI Files". In the context of the WWW, the most interesting component is the (4) format. In principle, MIDI files contain sequences of MIDI Protocol messages. However, when MIDI Protocol (5) are stored in MIDI files, the events are also time-stamped for playback in the proper sequence. Music delivered by MIDI files is the most common use of MIDI today. (2005 年下半年)

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|-----------------|----------------|
| (1) A. personal | B. electronic |
| C. multimedia | D. network |
| (2) A. device | B. protocol |
| C. network | D. controller |
| (3) A. format | B. text |
| C. wave | D. center |
| (4) A. video | B. Foxmail |
| C. graphic | D. audio |
| (5) A. messages | B. packets |
| C. frame | D. information |

【参考译文】:

MIDI 使人们能使用多媒体计算机和电子乐器。MIDI 事实上由 3 个部分组成:通信协议、硬件接口和称为“标准 MIDI 文件”的分布式格式。在万维网环境中,最有趣的组成部分是音频的格式。在原理上,MIDI 文件包含 MIDI 协议消息序列。然而,当 MIDI 协议消息存储在 MIDI 文件中时,按正确的顺序重放的事件也需要有时间标记。用 MIDI 文件传送音乐是 MIDI 在今天最普遍的应用。

【参考答案】:(1) C (2) B (3) A (4) D (5) A

2. Certificates are (1) documents attesting to the (2) of a public key to an individual or other entity. They allow verification of the claim that a given public key does in fact belong to a given individual. Certificates help prevent someone from using a phony key to (3) someone else. In their simplest form, certificates contain a public key and a name. As commonly used, a certificate also contains an (4) date, the name of the CA that issued the certificate, a serial number, and perhaps other information. Most importantly, it contains the digital (5) of the certificate issuer. The most widely accepted format for certificates is X.509, thus, certificates can be read or written by any application complying with X.509. (2005 年下半年)

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|----------------------|----------------|
| (1) A. text | B. data |
| C. digital | D. structured |
| (2) A. connecting | B. binding |
| C. composing | D. conducting |
| (3) A. impersonate | B. personate |
| C. damage | D. control |
| (4) A. communication | B. computation |

- C. expectation
 (5) A. signature
 C. stamp
- D. expiration
 B. mark
 D. hypertext

【参考译文】:

证书是用来证明绑定给个人或其他实体的公钥的数字文件。证书可用来证明一个给定的公钥确实属于一个给定的个人。证书有助于防止某人使用假冒的密钥去冒充其他人。作为最简的形式,证书包含一个公钥和一个名字。通常,证书还包含有效期、发布认证的 CA 的名字、一个序列号及其他信息。最重要的是,证书中包含证书颁发机构的数字签名。被接受的最广泛的证书格式是 X.509,因此,认证能够被任何接受 X.509 的程序读或写。

【参考答案】:(1) C (2) B (3) A (4) D (5) A

3. WebSQL is a SQL-like (1) language for extracting information from the Web. Its capabilities for performing navigation of Web (2) make it a useful tool for automating several Web-related tasks that require the systematic processing of either all the links in a (3), all the pages that can be reached from a given URL through (4) that match a pattern, or a combination of both. WebSQL also provides transparent access to index servers that can be queried via the Common (5) Interface. (2006 年上半年)

- (1) A. query
 C. communication
- (2) A. browsers
 C. hypertexts
- (3) A. hypertext
 C. protocol
- (4) A. paths
 C. tools
- (5) A. Router
 C. Computer
- B. transaction
 D. programming
- B. servers
 D. clients
- B. page
 D. operation
- B. chips
 D. directories
- B. Device
 D. Gateway

【参考译文】:

WebSQL 是一种类似于 SQL 的用于从 Web 上提取信息的查询语言。它能够执行 Web 超文本导航,这使得它成为自动执行各种 Web 相关任务的有用工具,这些任务要求在系统级处理一个页面中的所有链接,或者能处理通过路径模式匹配由给定 URL 到达的所有页面,或两者均能处理。WebSQL 也提供通过公共网关接口查询索引服务器的透明通路。

【参考答案】:(1) A (2) C (3) B (4) A (5) D

4. Originally introduced by Netscape Communications, (1) are a general mechanism which HTTP server side applications, such as CGI (2), can use to both store and retrieve information on the HTTP (3) side of the connection. Basically, cookies can be used to compensate for the (4) nature of HTTP. The addition of a simple, persistent, client-side state significantly extends the capabilities of WWW-based (5). (2006 年上半年)

- (1) A. browsers
 B. cookies

- | | |
|-----------------|-----------------|
| C. connections | D. scripts |
| (2) A. graphics | B. processes |
| C. scripts | D. texts |
| (3) A. client | B. editor |
| C. creator | D. server |
| (4) A. fixed | B. flexible |
| C. stable | D. stateless |
| (5) A. programs | B. applications |
| C. frameworks | D. constrains |

【参考译文】:

Cookie 最初是由 Netscape 通信公司引入的,是一种常用通信机制,HTTP 服务器端应用程序(如 CGI 脚本)用它来存储和检索 HTTP 连接客户端的信息。Cookie 基本上能弥补 HTTP 的无状态的缺陷。增加了这种简单、持久保存的客户端状态后,大大扩展了基于 WWW 的应用程序的能力。

【参考答案】:(1) B (2) C (3) A (4) D (5) B

5. (1) analysis emphasizes the drawing of pictorial system models to document and validate both existing and/or proposed systems. Ultimately, the system models become the (2) for designing and constructing an improved system. (3) is such a technique. The emphasis in this technique is process-centered. Systems analysts draw a series of process models called (4). (5) is another such technique that integrates data and process concerns into constructs called objects.

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|----------------------------|-----------------------------|
| (1) A. Prototyping | B. Accelerated |
| C. Model-driven | D. Iterative |
| (2) A. image | B. picture |
| C. layout | D. blueprint |
| (3) A. Structured analysis | B. Information Engineering |
| C. Discovery Prototyping | D. Object-Oriented analysis |
| (4) A. PERT | B. DFD |
| C. ERD | D. UML |
| (5) A. Structured analysis | B. Information Engineering |
| C. Discovery Prototyping | D. Object-Oriented analysis |

【参考译文】:

模型驱动的分析方法强调通过绘制图形化的系统模型来记录和验证已有的或待开发的系统。这些系统模型最终会成为设计和构造改进后的系统的蓝图。结构化分析就是这样一种方法,其重点是以过程为中心。系统分析师所绘制的一系列过程模型被称为 DFD。面向对象分析是另外一种分析方法,它将数据和过程集成到称为对象的结构中。

【参考答案】:(1) C (2) D (3) A (4) B (5) D

6. The Rational Unified Process (RUP) is a software engineering process, which captures many of best practices in modern software development. The notions of (1) and scenarios have been

proven to be an excellent way to capture function requirements. RUP can be described in two dimensions — time and content. In the time dimension, the software lifecycle is broken into cycles. Each cycle is divided into four consecutive (2) which is concluded with a well-defined (3) and can be further broken down into (4) — a complete development loop resulting in a release of an executable product, a subset of the final product under development, which grows incrementally to become the final system. The content structure refers to the disciplines, which group (5) logically by nature. (2007 年下半年)

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|---------------------|--------------|---------------|------------------|
| (1) A. artifacts | B. use-cases | C. actors | D. workers |
| (2) A. orientations | B. views | C. aspects | D. phases |
| (3) A. milestone | B. end-mark | C. measure | D. criteria |
| (4) A. rounds | B. loops | C. iterations | D. circularities |
| (5) A. functions | B. workflows | C. actions | D. activities |

【参考译文】:

统一软件过程(RUP)是一种软件工程过程,它吸取了现代软件开发的最佳实践。用例和场景的概念已被证明为一种极好的捕获功能需求的方法。RUP 可以二维(时间和内容)的形式进行描述。从时间维来看,软件生命周期被分成几个周期;每个周期又被分成4个连续的阶段,每个阶段包含一个明确定义的里程碑;每个阶段还可以被进一步划分为若干轮迭代,每一次迭代都是一个完整的开发过程;每次迭代结束时会发布一个可执行的产品,这个产品是正在开发的软件系统的一个子集,它会逐渐扩展为最终系统。内容结构是指将活动按照特性逻辑组织在一起的规则。

【参考答案】:(1) B (2) D (3) A (4) C (5) D

7. Object-oriented analysis(OOA) is a semiformal specification technique for the object-oriented paradigm. Object-oriented analysis consists of three steps. The first step is (1). It determines how the various results are computed by the product and presents this information in the form of a (2) and associated scenarios. The second is (3), which determines the classes and their attributes. Then determine the interrelationships and interaction among the classes. The last step is (4), which determines the actions performed by or to each class or subclass and presents this information in the form of (5). (2008 年上半年)

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|------------------------------|------------------------|
| (1) A. use-case modeling | B. class modeling |
| C. dynamic modeling | D. behavioral modeling |
| (2) A. collaboration diagram | B. sequence diagram |
| C. use-case diagram | D. activity diagram |
| (3) A. use-case modeling | B. class modeling |
| C. dynamic modeling | D. behavioral modeling |
| (4) A. use-case modeling | B. class modeling |
| C. dynamic modeling | D. behavioral modeling |
| (5) A. activity diagram | B. component diagram |
| C. sequence diagram | D. state diagram |

【参考译文】:

面向对象分析(OOA)是一种用于面向对象范例的半形式化的规格描述技术。面向对象分析包括3个步骤。第一步是用例建模,这一步决定如何按产品计算出不同的结果,如何以用例图和相关场景的形式表示这些信息。第二步是类建模,这一步决定类及其属性,确定类之间的相互关系和交互。最后一步是动态建模,这一步决定类和子类之间的行为,并以状态图的形式来表示这些信息。

【参考答案】:(1) A (2) C (3) B (4) C (5) D

8. For nearly ten years, the Unified Modeling Language (UML) has been the industry standard for visualizing, specifying, constructing, and documenting the (1) of a software-intensive system. As the (2) standard modeling language, the UML facilitates communication and reduces confusion among project (3). The recent standardization of UML 2.0 has further extended the language's scope and viability. Its inherent expressiveness allows users to (4) everything from enterprise information systems and distributed Web-based applications to real-time embedded systems. The UML is not limited to modeling software. In fact, it is expressive enough to model (5) systems, such as workflow in the legal system, the structure and behavior of a patient healthcare system, software engineering in aircraft combat systems, and the design of hardware. To understand the UML, you need to form a conceptual model of the language, and this requires learning three major elements: the UML's basic building blocks, the rules that dictate how those building blocks may be put together, and some common mechanisms that apply throughout the UML. (2009 年上半年)

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|---------------------|-----------------|--------------|-----------------|
| (1) A. classes | B. components | C. sequences | D. artifacts |
| (2) A. real | B. legal | C. de facto | D. illegal |
| (3) A. investors | B. developers | C. designers | D. stakeholders |
| (4) A. model | B. code | C. test | D. modify |
| (5) A. non-hardware | B. non-software | C. hardware | D. software |

【参考译文】:

近10年来,统一建模语言(UML)已经成为可视化、规范化说明、构造和文档化软件密集型系统中类的工业标准。作为事实上的建模语言标准,UML能够促进项目设计人员之间的沟通,并减少理解上的混乱。最近,UML 2.0的标准化进一步拓展了该语言的应用范围。它所具有的表达能力使用户可以对企业信息系统、分布式Web系统和嵌入式实时系统等进行建模。UML不仅能够对软件系统建模,事实上,其充分的表现能力还可对非软件系统进行建模,例如法律系统中的工作流、病人监护系统中的结构和行为、飞行战斗系统的软件工程和硬件系统等。要理解UML,需要形成该语言的概念模型,这需要学习3个要素:UML的基本构件块、基本构件块的集成规则和应用这些构件块与规则的通用机制。

【参考答案】:(1) A (2) C (3) C (4) A (5) B

11.3 模拟训练

1. Network managers have long (1) practical Voice-over-IP (VoIP) solutions. VoIP (2) ease network management and decreases costs by (3) a company's telephony and data infrastructures into one network. And a VoIP solution implemented at a company's head-quarters with far-reaching branch offices can (4) tremendous amounts of long distance phone bills, provided that solution delivers (5) voice quality over the Internet.

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|-------------------|--------------|--------------|----------------|
| (1) A. await | B. awaiting | C. awaits | D. awaited |
| (2) A. promising | B. promise | C. promises | D. promised |
| (3) A. converging | B. converge | C. converged | D. converges |
| (4) A. save | B. saved | C. saves | D. saving |
| (5) A. POTS-like | B. POTS-same | C. like-POTS | D. POTS-likely |

2. Soon, more of the information we receive via the Internet could come (1) in digital wrappers. Wrappers are made up (2) software code that's targeted to do specific things with the data (3) within them, such as helping to define queries for search engines. They also keep (4) from (5) access to that code.

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|-----------------|-------------|--------------|--------------|
| (1) A. package | B. packaged | C. packages | D. packaging |
| (2) A. of | B. off | C. on | D. out |
| (3) A. close | B. closed | C. enclose | D. enclosed |
| (4) A. insiders | B. money | C. outsiders | D. warehouse |
| (5) A. gain | B. gained | C. gains | D. gaining |

3. Networks can be interconnected by different devices. In the physical layer, networks can be connected by (1) or hubs, which just move the bits from one network to an identical network. One layer up we find bridges and switches, which operate at data link layer. They can accept (2), examine the MAC address, and forward the frames to a different network while doing minor protocol translation in the process. In the network layer, we have routers that can connect two networks. If two networks have (3) network layer, the router may be able to translate between the packet formats. In the transport layer we find transport gateway, which can interface between two transport connections. Finally, in the application layer, application gateways translate message (4). As an example, gateways between Internet e-mail and X.400 e-mail must (5) the e-mail message and change various header fields.

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|------------------|--------------|
| (1) A. repeaters | B. relays |
| C. connectors | D. modems |
| (2) A. frames | B. packets |
| C. packages | D. cells |
| (3) A. special | B. dependent |

- C. similar
 (4) A. syntax
 C. language
 (5) A. analyze
 C. delete
- D. dissimilar
 B. semantics
 D. format
 B. parse
 D. create

4. DOM is a platform-and language- (1) API that allows programs and scripts to dynamically access and update the content, structure and style of WWW documents (currently, definitions for HTML and XML documents are part of the specification). The documents can be further processed and the results of that processing can be incorporated back into the presented (2). DOM is a (3)-based API to documents, which requires the whole document to be represented in (4) while processing it. A simpler alternative to DOM is the event-based SAX, which can be used to process very large (5) documents that do not fit into the memory available for processing.

- (1) A. specific
 C. contained
- (2) A. text
 C. page
- (3) A. table
 C. control
- (4) A. document
 C. disc
- (5) A. XML
 C. script
- B. neutral
 D. related
 B. image
 D. graphic
 B. tree
 D. event
 B. processor
 D. memory
 B. HTML
 D. Web

5. Melissa and LoveLetter made use of the trust that exists between friends or colleagues. Imagine receiving an (1) from a friend who asks you to open it. This is what happens with Melissa and several other similar e-mail (2). Upon running, such worms usually proceed to send themselves out to e-mail addresses from the victim's address book, previous e-mails, Web pages (3).

As administrators seek to unlock dangerous e-mail attachments through the recognition of well-known (4), virus writers use other extensions to circumvent such protection. Executable (.exe) files are renamed to .bat and .cmd plus a whole list of other extensions and will still run and successfully infect target users.

Frequently, hackers try to penetrate networks by sending an attachment that looks like a flash movie, which, while displaying some cute animation, simultaneously runs commands in the background to steal your passwords and give the (5) access to your network.

- (1) A. attachment
 C. datagram
- (2) A. virtual
 C. worms
- (3) A. memory
 B. caches
- B. packet
 D. message
 B. virus
 D. bacteria

C. ports

(4) A. names

C. software

(5) A. cracker

C. customer

D. registers

B. cookies

D. extensions

B. user

D. client

6. ADSL, the Asynchronous Digital (1) Line, is a new technology especially developed to provide (2) data communication to and from the Internet. Asynchronous means that the downstream bandwidth (data coming from the Internet) is always (3) than the upstream (data sent to the Internet). To make ADSL affordable for private users, typical offerings provide somewhat (4) throughput rates. Some providers, for example, offer 768 Kb/s downstream and 128 Kb/s upstream. At this speed, ADSL can be operated simultaneously with ISDN, even over the same telephone cable, so that no new cabling is (5).

(1) A. Subscriber

C. Substantial

(2) A. fast

C. high-speed

(3) A. lower

C. better

(4) A. lower

C. better

(5) A. considerable

C. important

B. Serial

D. Several

B. low-speed

D. slow

B. higher

D. super

B. higher

D. super

B. must

D. necessary

7. Multimedia is the (1) of computer and video technology. Multimedia have really just two (2), sound and pictures, or in today's term, audio and video. Multimedia itself has its binary aspects. As with all modern technologies, it is made from a mix of hardware and software, machine and ideas. More importantly, you can conceptually (3) technology and function of multimedia into control systems and information. The enabling force behind multimedia is digital technology. Multimedia (4) the convergence of digital control and digital media—the PC as the digital control system and the digital media being today's most advanced form of audio and video storage and transmission. In fact, some people see multimedia simply as the marriage of PCs and (5). PC power has reached a level close to that needed for procession television and sound data streams in real time, multimedia was born.

(1) A. combination

C. consist

(2) A. media

C. types

(3) A. using

C. divide

B. combine

D. make up of

B. wave

D. kinds

B. use

D. apply into

- (4) A. represents
C. representing
B. represent
D. represented
- (5) A. radio
C. audio
B. sound box
D. video

【参考译文】:

1. 网络管理员一直期盼着实用的 VoIP(IP 话音业务)解决方案。通过将公司的电话和数据基础设施集成于同一网络,VoIP 使网络管理更简便并且降低了成本。如果 VoIP 解决方案通过 Internet 提供类似 POTS 的语音质量,那么在公司总部与远程分支机构实施这种方案,可节省大量的长途话费。

2. 不久,我们通过 Internet 接收的更多的信息将会以数字包裹的形式打包到达。这种包裹由软件代码组成,其目的是用封装在其中的数据做一些特定的事情,例如帮助搜索引擎定义查询。它们还能让局外人无法访问那些代码。

3. 网络可以用不同的设备互连。在物理层,可以使用中继器或集线器连接网络,这些设备只是在相同的网络之间传送比特。在上面的数据链路层,可以使用网桥或交换机,这些设备接收数据帧,检查 MAC 地址,并可以实现少量的协议转换,把数据帧转发到不同的网络。在网络层,可以使用路由器连接两个网络。如果两个网络的网络层不同,路由器能够对分组格式进行转换。在传输层,使用传输网关在两个传输连接之间建立接口。最后,在应用层,应用网关实现消息语法之间的翻译。例如,在 Internet 邮件和 X.400 邮件之间的网关必须对邮件报文进行语法分析,对报文的各个报头字段做出改变。

4. DOM 是一种独立于平台和语言的 API,它允许程序和脚本语言动态访问和更新 WWW 文档的内容、结构及形式(目前对 HTML 和 XML 的定义也是此规范的一部分)。这些文档可以被进一步处理,处理的结果被传送到当前页面。DOM 是一种树状的 API 文档,在处理这些文档的时候,要求将整个文档调入内存。DOM 的一种简单解决方案就是基于事件的 SAX,它可以用来处理大量的 XML 文档,同时在处理文档的同时不需要将其调入内存。

5. Melissa 和 LoveLetter 病毒利用了朋友或同事间的信任。想象一下这种情况:你的朋友发一个附件给你,要你打开,Melissa 和其他类似的蠕虫病毒都使用这样的手段。一旦你运行了这些病毒程序,蠕虫就会继续把自己发送到你的 E-mail 地址簿、先前接收到的 E-mail 及 Web 页中的地址。

当管理员试图通过识别已知的扩展名来解除危险的 E-mail 附件时,病毒的编写者就会使用其他的扩展名来绕过这种保护。可执行文件(.exe)被重命名成为.bat 和.cmd 等其他的扩展名。这样的病毒文件同样会被运行,并成功感染目标用户。

通常,黑客会通过发送一个类似于 Flash 电影的附件来通过网络。这些 Flash 电影通常会播放一些可爱的动画,同时在后台运行窃取密码的命令,使黑客获得你的网络访问权。

6. ADSL,非对称数字用户环路,是一种为在 Internet 上进行高速数据通信而专门开发的新技术。非对称意味着下行数据流带宽(从 Internet 下传的数据)总是高于上行数据流带宽(发送到 Internet 上的数据)。为了使私人用户能够负担得起 ADSL,通常会提供略为低的数据吞吐率。例如,有的服务商就提供 768 Kb/s 的下行速度和 128 Kb/s 的上行速度。以这个速度,ADSL 可以与 ISDN 同时工作,甚至可以使用同一根电话线,所以不需要新电缆线。

7. 多媒体是计算机和视频技术的结合。多媒体实际上只有两种媒体:声音和图像,用现在的术语,即音频和视频。多媒体本身有两个方面。和所有现代技术一样,它由硬件和软件或机器和思想组成。更为重要的是,可以将多媒体技术和功能在概念上区分为控制系统和信息。多媒体之所以能够实现是因为利用了数字技术。多媒体代表数字控制和数字媒体的汇合计算机是数字控制系统,而数字媒体是当今最先进的音频与视频存储和传输形式。事实上,有人就简单地认为多媒体是计算机和电视的结合。当计算机的能力达到实时处理电视和声音数据流的水平时,多媒体就诞生了。

参考答案:

1. (1) D (2) C (3) A (4) A (5) A 2. (1) B (2) A (3) D (4) C (5) D
3. (1) A (2) A (3) D (4) A (5) B 4. (1) B (2) C (3) B (4) D (5) A
5. (1) A (2) C (3) B (4) D (5) A 6. (1) A (2) C (3) B (4) A (5) D
7. (1) A (2) A (3) C (4) A (5) D