

全國各級農會第3次聘任職員統一考試試題【解答】

科目： 資訊管理實務 類別： 七職等晉升六職等

作答注意事項：

- 1、全部答案請寫在答案卷內，如寫在試題紙上，則不予計分。
- 2、請以黑色或藍色鋼筆或原子筆書寫，並以橫式書寫（由左至右，由上而下）。

I. 請解釋以下名詞並闡釋其用途與作用(每題5分，共60分)：

(1) SQL

SQL, Structured Query Language, is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS)

(2) CMMI

Capability Maturity Model Integration (CMMI) is a process improvement training and appraisal program and service administered and marketed by Carnegie Mellon University (CMU) and required by many DoD and U.S. Government contracts. CMMI defines the following maturity levels for processes: Initial, Managed and Defined.

(3) Association Rule Mining

Association rule learning is a method for discovering interesting relations between variables in large databases. A common technique for data mining.

(4) Hackathon

程式設計馬拉松(英語:hackathon,又譯為駭客松),又稱駭客日(hack day)、駭客節(hackfest)或程式設計節(codefest),是一個流傳於駭客(hacker)當中的新詞彙。程式設計馬拉松是一種活動。在該活動當中,電腦程式設計師以及其他與軟體發展相關的人員,如圖形設計師、介面設計師與專案經理,相聚在一起,以緊密合作的形式去進行某項軟體專案。程式設計馬拉松的靈魂是合作地編寫程式和應用。程式設計馬拉松的時長一般在幾天到一周不等。程式設計馬拉松不是編寫些一次性作品那麼簡單。程式設計馬拉松的精髓在於:很多人,在一段特定的時間內,相聚在一起,以他們想要的方式,去做他們想做的事情——整個程式設計的過程幾乎沒有任何限制或者方向。

(5) UML

The Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide

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a standard way to visualize the design of a system.

(6) DoS Attack

In computing, a denial-of-service (DoS) attack is an attempt to make a machine or network resource unavailable to its intended users, such as to temporarily or indefinitely interrupt or suspend services of a host connected to the Internet.

(7) SaaS

Software as a service (SaaS) is a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted as a cloud service.

(8) MVC (Model-View-Control)

Model-view-controller (MVC) is a software architectural pattern for implementing user interfaces on computers. It divides a given software application into three interconnected parts, so as to separate internal representations of information from the ways that information is presented to or accepted from the user

(9) ssh

Secure Shell, or SSH, is a cryptographic (encrypted) network protocol operating at layer 7 of the OSI Model to allow remote login and other network services to operate securely over an unsecured network.

(10) XML

Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. It is defined by the W3C's XML 1.0 Specification

(11) VPN

A virtual private network (VPN) extends a private network across a public network, such as the Internet. It enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network, and thus benefit from the functionality, security and management policies of the private network

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(12) OLAP

In computing, online analytical processing, or OLAP, is an approach to answering multi-dimensional analytical (MDA) queries swiftly. OLAP is part of the broader category of business intelligence, which also encompasses relational database, report writing and data mining

II. 申論題 (每題 20 分，共 40 分)

- (1) 於軟體工程測試概念中，軟體驗證(Verification)與軟體確認(Validation)兩者有何不同？於軟體開發上，軟體驗證與軟體確認何者重要？請解釋其理由。

Software verification is a discipline of software engineering whose goal is to assure that software fully satisfies all the expected requirements. Software validation checks that the product design satisfies or fits the intended use (high-level checking), i.e., the software meets the user requirements. Validation is much important than verification. Software validation confirms that the product, as provided, will fulfill its intended use.

- (2) 請描繪軟體工程瀑布式開發流程(Water Fall Model)，並比較其與極限製程開發法(Extreme Programming)之優劣。若我們想開發一個前所未有的軟體系統，我們僅知該軟體系統所需要的大約功能。此時我們採用何種開發法較為合適？請解釋理由。

The waterfall model is a sequential design process, used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design, construction, testing, production/implementation and maintenance. Extreme programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements. Waterfall model is very good for the system that knowing all requirements, as it goes step-by-step over software development activity.