

本試題是否可以使用計算機：可使用，不可使用（請命題老師勾選）

考試日期：0302，節次：2

1. 單選題：(36%，每題 3%)

(1) Prototyping involves:

- a. The execution of the standard systems development cycle using CASE tools.
- b. Rapid generation of systems by information systems professionals without the need for end user input.
- c. The use of a fail-safe development process designed to ensure that an information system meets all user requirements without revision.
- d. An iterative and interactive development process with extensive end user involvement.
- e. Process of deriving system models from existing systems or discovery prototypes.

(2) Which of the following is NOT true regarding the systems approach?

- a. The systems approach to problem solving uses a systems orientation to define problems and opportunities and to develop solutions.
- b. When end users develop their own computer-based applications, they do not have to concern themselves with the components of input, processing, output, storage, and control as this is the responsibility of data administrators.
- c. When the systems approach to problem solving is applied to the development of information system solutions to business problems, it is called information systems development or application development.
- d. The systems approach to develop information system solutions involves a multi-step process called the information systems development cycle that includes the steps of investigation, analysis, design, implementation, and maintenance.
- e. The systems approach to develop information systems concerns about the interrelationships among problems and/or opportunities, and the selected solutions.

(3) Which of the following is NOT true about Metadata?

- a. Contains records that show what data are accessed and how often.
- b. Contains algorithms for aggregating and summarizing.
- c. Contains information about the sources of the stored data.
- d. Contains an extraction history which shows what data was analyzed.
- e. Contains transformation maps that records what transformations were

(背面仍有題目,請繼續作答)

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applied.

- (4) The major impact of e-commerce upon strategic planning has been:
- the need for faster action and reaction.
 - the necessity to implement the most up-to-date information and communications technologies.
 - the development of intra- and inter-organizational activities required to support the exchange of digitized information between market members.
 - the obsolescence of the concept of a corporate mission/vision.
 - the challenge to seamlessly merge online commerce with offline activities to maximize customer satisfaction.
- (5) Which of the following is NOT one of the key criteria of a desirable information system?
- Has a rich database that contains detailed data needed to trace problems/opportunities to the root causes.
 - Is capable of organizing and presenting the collected data in a way that can help its users identify their problems or opportunities.
 - Allow its users to use a structured approach to navigate the data collected.
 - Must be inviting to use.
 - Has problem-solving capabilities built into the system.
- (6) As the functional demands made upon a system change, the _____ of the system becomes more important.
- usability
 - scalability
 - functionality
 - extensibility
 - adaptability
- (7) Which of the following is NOT true?
- Many of the dot.com failures can be traced to problems in the customer support/handling process.
 - The dual-interface nature of hybrid firms simplifies their organization/operation by clearly separating their online/offline elements.
 - Firms which have tightly coupled online/offline back-office support systems are able to offer great flexibility for consumers seeking advantages associated with the use of either channel.

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- d. Enterprise Resource Planning (ERP) is used to integrate and automate a firm's user interface, data set, and code set.
- e. The development of a website requires mapping the offering to the decision process.
- (8) In recent years, the prevalence of the virtual communities has dramatically shaped the way people communicate with one another for information/knowledge sharing purposes. Which of the following is NOT one of the main features of a virtual community?
- Members of a virtual community share the same, or at least similar, interests and/or purposes.
 - A virtual community has its own codes to regulate the behaviors of its members.
 - The operations of a virtual community can be considered a set of processes of social interaction.
 - Generally speaking, the motives of participating in a virtual community are as follows: anticipated reciprocity, increased recognition, sense of efficacy, peer pressure, and the desire to become famous.
 - Most members of virtual communities communicate and connect with one another through various kinds of digital networks, the Internet in particular.
- (9) We are in a revolutionary era in which wireless technologies are dramatically transforming our information systems and the way we do our business. Which of the following is not considered an evidence of such transformation?
- The emergence of M-commerce services and applications.
 - The prevalence of new products which have their roots in wireless technologies, such as the global positioning system (GPS).
 - The use of wireless portals which feature content and services optimized for portable devices to provide users with the information they are most likely to need.
 - The construction of hardware infrastructure, such as WAP gateway, which supports delivery of services over the wireless connection.
 - The opportunity for employees of organizations to choose to work at home during regular office hours.

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- (10) Which kind of feasibility asks how well the proposed information system solves the problems and takes advantage of the identified opportunities?
- Cultural feasibility.
 - Technical feasibility.
 - Operational feasibility.
 - Political feasibility.
 - Economic feasibility.
- (11) An Enterprise Resource Planning system (ERP) enables a company to integrate the data used throughout the whole organization. Which of the following is NOT one of the criteria of a successful implementation of an ERP?
- Integrate all the key functions of an organization at once in order to improve its overall effectiveness and efficiency.
 - Acquire top management support.
 - Redesign the business process to take full advantage of the ERP's capability.
 - Develop and execute a proper testing plan before the official implementation of the ERP.
 - Have a clear objective.
- (12) Which of the following is an inaccurate statement about the traditional transaction process systems (TPS) and decision support systems (DSS)?
- TPS contains mostly hard data, while DSS mostly contains soft data.
 - TPS mostly emphasizes on getting complete, accurate and timely data, while DSS aims to collect future data, judgmental data, and qualitative data which can help individuals picture the future.
 - A TPS will be used because it runs the business processes of the organization. A DSS helps to manage the business, and depends on managers' desire and ability to use them.
 - The management process must be driven by the information provided by the TPS. Only then will the system be used.
 - All of the above.

2. 簡答題: (14%)

(1) Briefly describe what a Wiki system is and its four main characteristics. (8%)

(2) Briefly describe the difference between a data warehouse and a data mart. (6%)

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3. Multiple choice questions 20%

(1) Which layer of the TCP/IP hierarchy decides the direction in which message segments are transferred across the Internet?

- A) Link
- B) Network
- C) Transport
- D) Application

(2) The amount of inventory used to create a batch of products is a measure of:

- A) Effectiveness
- B) Efficiency
- C) System acceptance
- D) None of the above

(3) Which of the following is not true about experts within an organization?

- A) Experts usually achieve a performance level significantly above others
- B) Experts usually are skilled at problem solving
- C) There is a standard universal definition that identifies experts
- D) Experts typically degrade gracefully
- E) None of the above

(4) Which of the following is not an advantage provided through knowledge-based systems?

- A) Wide distribution of expertise.
- B) Ability to deal with incomplete problem data.
- C) Perpetual accessibility to knowledge-based solutions.
- D) Preservation of expertise.
- E) Implicit use of common sense.

(5) Sales analysis reports greatly help sales managers to evaluate differences in performance among salespeople who sell the same types of products to the same types of customers. They have a good idea of the kinds of information about sales results they need to manage sales performance effectively. This kind of decision making would be considered a:

- A) Structured decision
- B) Unstructured decision
- C) Semi-structured decision
- D) Self-structured decision
- E) None of the above

4. Short answer questions and discussion 30%

(1) Write the following numbers in 8-bit 2s complement or write down "IMPOSSIBLE" if it can not be represented in this way. 5%

- (A) -1

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- (B) 128
(C) -128

(2) GIF is a lossless file format. Why is the image quality worsened when one tries to save a bit-mapped image file as a GIF file? 5%

(3) Please explain what Usenet is. And compare it to blogs and mailing lists. 5%

(4) Given the three relations X, Y, and Z below

X:	<u>A</u>	<u>B</u>	Y:	<u>C</u>	<u>D</u>	Z:	<u>E</u>	<u>F</u>
	7	s		t	4		2	w
	3	z		r	2		3	q
	1	u						

What values would be retrieved by executing the following statement? 5%

```
SELECT X.B, Y.C, Z.F
FROM X, Y, Z
WHERE X.A = Z.E and X.A > Y.D
```

(5) Please segment 140.116.53.0 into five sub-domains. Identify the address ranges of these sub-domains and the subnet mask for this segmentation. 10%