※ 考生請注意：本試題不可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

A1. Multiple select questions. Please select all the correct answers from the following questions. If missing one (or more) correct answer(s), one (or more) point(s) will be deducted from each question, and vice versa.

(1) How many bytes can they hold? (4 points)

A. Megabyte(MB) can hold 2^{20} bytes.

B. Gigabyte(GB) can hold 2^{30} bytes.

C. Petabyte(PB) can hold 2^{50} bytes.

D. Exabyte(EB) can hold 2^{60} bytes.

E. Zettabyte(ZB) can hold 2^{70} bytes.

(2) What are keystroke shortcuts? (4 points)

A. CTRL + P means to opens the print dialog box.

B. CTRL + S means to save a document.

C. CTRL + U means to remove/apply underlining to selected text.

D. CTRL + V means to paste selected text (previously cut or copied)

E. CTRL + X means to remove selected text from document.

(3) How large is the capacities of the following storage media? (4 points)

A. Blu-ray (dual layer) can store approximately 25 GB.

B. CD can store approximately 700 MB.

C. DVD DL (dual layer) can store approximately 9.4 GB.

D. Hard drive can store as much as 750 GB.

E. Portable hard drive can hold up to 2 TB.

(4) Select the "open" top-level domains (TLD) specified by their authorized users: (4 points)

A. .biz : businesses

B. .com : commercial sites

C. .int : offices and programs

D. .net : a distributed network of computers or "umbrella" sites

E. .org : organizations (often nonprofits)

(5) Select the following file name extensions specified by the "correct" types of document: (4 points)

A. .csv : canvas

B. .png : portable navigation graphic

C. .tif : TIFF graphic

D. .rtf : readable text file

E. .zip : PC Zip Compressed Archive

A2. Please provide one example that can be applied by the following technologies. Each counts 2 points.

    (1) Affective computing –

    (2) Computer forensics –

    (3) Office ergonomics –

    (4) Nanotechnology –

    (5) E-mail privacy –

A3. Short-answer questions. (1), (2), (3) each counts 3 points. (4), (5), (6) each counts 2 points.

    (1) Please draw a comprehensive diagram to identify the relative location of the following terms: CPU, expansion card (adapter card), flash/thumb drive, HDMI, LCD, optical mouse, FiOS, QWERTY, RAM, USB, webcam.

    (2) Please compare the features of smartphone and computer.

    (3) How the computer literacy, plagiarism policies, and intellectual property can be addressed in the educational context?

    (4) How to evaluate CPU performance?

    (5) Why is safe mode used for your computer?

    (6) What will be the future systems and technologies?

A4. Here presents a portion of the empirical study abstract. Based on the study 1 findings, please draw one (or more) diagrams, either 2D or 3D, to illustrate the relationship between negative emotion, mouse cursor speed, and mouse cursor distance. (5 points)

Abstract (partial): Emotion can influence important user behaviors, including purchasing decisions, technology use, and customer loyalty. The ability to easily assess users' emotion during live system use therefore has practical significance for the design and improvement of information systems. In this paper, we discuss using human–computer interaction input devices to infer emotion. Specifically, we utilize attentional control theory to explain how movement captured via a computer mouse (i.e., mouse-cursor movements) can be a real-time indicator of negative emotion. We report three studies. In Study 1, an experiment with 65 participants from Amazon's Mechanical Turk, we randomly manipulated negative emotion and then monitored participants' mouse cursor movements as they completed a number-ordering task. We found that negative emotion increases the distance and reduces the speed of mouse cursor movements during the task...

Source: Hibbeln, M., Jenkins, J. L., Schneider, C., Valacich, J. S., & Weinmann, M. (2016). How is your user feeling? Inferring emotion through human-computer interaction devices. MIS Quarterly, 41. http://misq.org/how-is-your-user-feeling-inferring-emotion-through-human-computer-interaction-devices.html

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B1. If the Primary key of the following table is (PName, Supplier), and the dependencies of fields are: Supplier-> SupplierBoss, Tel -> Address, please describe what normal form this table conflict (6%). Using the dependencies and 1,2,3 normal form to redraw the data into three tables and identify which columns are primary keys for each table. (6%) Identify which columns are foreign keys and which relationships they represent. (4%) If an organization has multi-transaction access to this data, will NoSQL be suitable for this company? Why? (4%)

PName	Supplier	SupplierBoss	Tel/Fax	Address	ContactName	volumn
GreenTea	Uni	Lee	0917123123; 06-777	1st University Road	Mary	5
GreenTea	Wei	John	06-111; 03-222	2nd HingYi St.	Wu	2
BlackTea	Wei	John	06-111; 03-222	2nd HingYi St.	Daisy	15

B2. Cloud service is widely used right now. Please define CDN and explain the purposes. (4%)

B3. The new government announced that FinTech will be promoted in the future. Please explain what FinTech is? (4%) Please list the most possible two FinTech potential business sectors. (4%)

B4. Multiple-Choice Questions (18%)

i. Which of the following is a responsibility of a systems analyst?
   A) advising the chief information officer on emerging technologies
   B) determining system requirements
   C) monitoring and fixing computer networks
   D) managing the IT department

ii. Which of the following is a risk of outsourcing information systems?
   A) Vendors can gain access to critical knowledge of the outsourcing company.
   B) Vendors are not subject to a contractual agreement with the outsourcing company.
   C) The long-term costs of information systems are outweighed by their benefits.
   D) Organizations opting for outsourcing cannot gain economies of scale.

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iii. NCKU Ltd. offers an online service that stores notes made by customers on the cloud. When a customer enters notes on a device, it gets updated in all the devices he/she owns. Which of the following cloud-based offerings does Phobas Inc. provide to its customers?

A) unified communications as a service (UCaaS)

B) platform as a service (PaaS)

C) software as a service (SaaS)

D) infrastructure as a service (IaaS)

iv. During design and implementation, a development team will be heavy with

_____.

A) business analysts

B) business users

C) programmers

D) senior managers

v. Which of the following statements is true of business intelligence (BI) systems?

A) Business intelligence systems are primarily used for developing software systems and data mining applications.

B) The four standard components of business intelligence systems are software, procedures, applications, and programs.

C) The software component of a business intelligence system is called an intelligence database.

D) Business intelligence systems analyze an organization's past performance to make predictions

vi. Which of the following is likely to be a consequence of cloud computing in the future?

A) The preference to set up one's own computing infrastructure will increase among organizations.

B) The cost of obtaining elastic resources will decrease.

C) The demand for employees who know how to use and manage information systems will reduce.

D) The number of technology-based startups will stagnate.