

國立中正大學

114 學年度碩士班招生考試

試題

[第3節]

科目名稱	計算機概論
系所組別	資訊管理學系- 甲組 乙組
	資訊管理學系醫療資訊管理

—作答注意事項—

※作答前請先核對「試題」、「試卷」與「准考證」之系所組別、科目名稱是否相符。

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6. 試題須隨試卷繳還。

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科目名稱：計算機概論

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1. In the traditional AI techniques, there are a lot of techniques are proposed, like the rule-based inference, case-based reasoning, data mining techniques (such as association rule, sequential pattern), theory proof, etc. Please list one successful business application adopting one of the above techniques, including why the application adopt that technique (5 分). In the modern AI techniques, there are also a lot of techniques are proposed, like CNN + neural network, RNN + (transformer +) neural network, neural-network-based language model, etc. Please list one successful application adopting one of the above techniques, including why the application adopt that technique (5 分).
2. What are the focus and goal for the four disciplines individually: a. data warehousing, b. data structure, c. data mining, d. big data? (10 分)
3. Individually list the goal and its suitable area of problem of the following diagrams in system analysis: a. use case diagram, b. class diagram, c. Entity-Relationship diagram, d. collaboration diagram, e. state-transition diagram, f. deployment diagram, g. class-responsibility-collaboration diagram. (10 分)
4. For the four data structure, a. stack, b. linked-list, c. priority queue, and d. binary searching tree, please list one application for each of the above structure and list the why the application adopts that data structure rather (i.e., total four applications, each of which mainly adopts one of the data structure). (10 分)
5. Please individually list the philosophy (i.e., concepts) of the algorithm methods of a. greedy method, b. dynamic programming, c. divide and conquer, d. prune and search. (10 分)
6. Please individually show what situation the database mechanism (i.e., system functions) is applied to or needed: a. recovery, b. concurrency control, c. checkpoint, d. roll-back. (10 分)
7. What is operation (processing) in the caller and called during the respective parameter passing way in: a. call-by-value, b. call-by-address, c. call-by-in-out, d. call-by-name, e. call-by reference. (10 分)
8. What is the pros and cons of CISC (complex instruction set computer) and RISC (reduced instruction set computer), and why the trend of instruction sets moves from CISC to RISC? (10 分)
9. Deadlock can be prevented by eliminating any one of the four necessary conditions, which are a. mutual exclusion, b. hold and wait, c. no preemption, and d. circular wait. Please list two applications in any category which did not cause deadlocks, and what conditions in the above four

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are eliminated in the two applications (total two applications). (10 分)

- 10. Assume a power-off notebook turns on its power, and then connects to the internet to access data from the web server www.ccu.edu.tw. Please list the protocols in time order the notebook issue a new request, or utilizes the results of the communication protocols in the following in the first time reaching from the notebook to the web site: a. DNS resolution; b. Three-way handshaking; c. DHCP protocol; d. Arp protocol; e. BGP protocol; f. HTTP protocol. (10 分)**

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[第4節]

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系所組別	資訊管理學系醫療資訊管理

—作答注意事項—

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A. Multiple Choice (3% for each, total 60%)

1. Which of the following is *not* part of the information systems strategy triangle?
 - a) Security strategy
 - b) Business strategy
 - c) Information strategy
 - d) Organizational strategy
2. A coordinated set of actions to fulfill objectives, purposes, and goals.
 - a) Tactics
 - b) Objective
 - c) Mission
 - d) Strategy
3. This is a plan articulating where a business seeks to go and how it expects to get there.
 - a) Business strategy
 - b) Objective
 - c) Mission
 - d) Tactics
4. Which of the following is not an IT asset?
 - a) Company apps
 - b) Customer information
 - c) Data
 - d) Platforms
5. Which of the following is not a technical skill?
 - a) Business process knowledge
 - b) Developing apps and integrating them with platforms
 - c) Network design and implementation ski
 - d) Proficiency in systems analysis
6. This capacity allows a firm to see signs of change in their environment and ferret out opportunities.
 - a) Modifying
 - b) Seizing
 - c) Sensing
 - d) Transforming

7. The set of ordered tasks needed to complete key objectives of the business.
 - a) Business processes
 - b) Decision rights
 - c) Formal reporting relationships
 - d) Informal networks
8. This results when the organization aims to be the lowest-cost producer in the marketplace.
 - a) Cost leadership
 - b) Speed leadership
 - c) Differentiation
 - d) Focus
9. The facts collected, stored, and used by the organization.
 - a) Data
 - b) Incentives
 - c) Locus
 - d) Performance measurement and evaluation
10. The characteristics of this organizational structure are: informal roles, planning, and control; and often small and young organizations.
 - a) Bureaucratic
 - b) Flat
 - c) Hierarchical
 - d) Matrix
11. Extent to which a society tolerates uncertainty and ambiguity; extent to which members of an organization or society strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events.
 - a) Individualism/collectivism
 - b) Masculinity/femininity
 - c) Power distance
 - d) Uncertainty avoidance
12. Degree to which emotional roles are distributed between the genders; extent to which an organization or society minimizes gender role differences and gender discrimination; often focuses on caring and assertive behaviors.
 - a) Individualism/collectivism
 - b) Masculinity/femininity
 - c) Power distance

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- d) Uncertainty avoidance
13. Now the IoT, cloud computing, analytics, AI, and machine learning (ML) are enabling change of such a magnitude in factories and production facilities that it is considered to be the _____.
a) First Industrial Revolution
b) Second Industrial Revolution
c) Third Industrial Revolution
d) Fourth Industrial Revolution
14. Which of the following is not a characteristic of virtual teams?
a) People who work together interdependently with mutual accountability for achieving common goals
b) People who do not work in either the same place and/or at the same time
c) People who must use electronic communication and other digital technologies to communicate, coordinate their activities, and complete their team's tasks
d) People who have a very similar or identical pay structure
15. On May 8, 2021, Colonial Pipeline announced that they were the victim of a ransomware cyberattack. What action did they take as a result?
a) Switched to backup computers
b) Rebooted all the servers
c) Shut down operations
d) Ignored the threat
16. Statistics show that what percentage of breaches are conducted by stealing login credentials such as a password.
a) Under 70%
b) 70%
c) 80%
d) 90%
17. Software scans incoming data and evaluates the periodic state of the whole system to detect threats of secret software that can either destroy data or inform a server of your activity.
a) Antivirus/antispyware
b) Firewall
c) System logs
d) System alerts

18. To understand the current IT environment, managers can start with three steps. Which of the following is not one of those steps?
- a) Objectively analyze the existing architecture and infrastructure
 - b) Objectively evaluate the architecture and infrastructure of competitors
 - c) Objectively analyze the strategy served by the existing architecture
 - d) Objectively analyze the ability of the existing architecture and infrastructure to further the current strategic goals
19. Match the following description to its Business Process Management (BPM) capability. Capabilities to use process and business data for insights, predictions, and prescriptions to aid in decisions and trigger automatic responses in applications.
- a) Human Task Management and Collaboration
 - b) Monitoring and Business Alignment
 - c) Business Rules and Decision Management
 - d) Analytics
20. Match the following sample processes with the appropriate enterprise system. Innovation management (strategy and planning, idea capture and management, program/project management); product development and management; product compliance management.
- a) Enterprise resource planning (ERP)
 - b) Customer relationship management (CRM)
 - c) Supply chain management (SCM)
 - d) Product life cycle management (PLM)

B. Short Answers (40%)

1. a. Imagine that you purchase an expensive home appliance. The first time you use the device sparks literally fly, and the device shuts down automatically. You read on the box that the company uses a dedicated site for social networking. Would you use this social networking site to share your concerns? Why/why not? What do you expect to happen in this instance? (5%)
b. Now imagine that you are the corporate representative assigned to respond to the customer feedback provided in part a. What is the appropriate way to engage this irate customer? (5%)
2. Some claim that the only sustainable competitive advantage for an organization is its relationships with its customers. All other advantages eventually erode. Do you agree or disagree? How can Information systems play a role in maintaining the organization's relationship with its customers? Defend your position. (10%)
3. What do you predict will be the impact of artificial intelligence (AI) (including generative AI) on knowledge workers? How can a manager ensure that the impact is positive rather than negative? (10%)

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4. Create an outline for a training session to help your team avoid phishing and spear phishing. What would you include in that training session? What are some typical signs that an e-mail might be fraudulent? (10%)

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問答題，共有九題，請依序作答，並擇重點回答，可以繪圖、做表和畫流程圖。

1. 請比較醫管和企管的異同。(10%)
2. 請說明什麼是「醫師費」制度？(10%)
3. 請說明所謂「醫療事務」的部門有哪些？(10%)
4. 請說明「醫療糾紛」發生的可能原因有哪些？(10%)
5. 請說明什麼是「診間醫令」？(10%)
6. 請說明並舉例什麼是「人工智慧(AI)醫療」？(10%)
7. 請說明什麼是醫療行銷組合(Marketing Mix)？(10%)
8. 請說明全民健康保險的基本原理和結構。(15%)
9. 請說明 Donabedian(1980)對於醫療品質的基本理論及其應用。(15%)