題號： 304
科目：計算機概論(B)
節次： 7

國立臺灣大學 114 學年度碩士班招生考試試題

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※ 注意：請於試卷內之「非選擇題作答區」作答，並應註明作答之題號。

1. Which of the following components is used to temporarily store data for immediate access by the CPU? (6 %)
   A. Hard Disk; B. RAM; C. ROM; D. Cache

2. Which of the following components is responsible for executing instructions in a computer system? (6 %)
   A. GPU; B. CPU; C. RAM; D. SSD

3. Which memory type is the fastest in terms of access speed? (6 %)
   A. Cache memory; B. Hard disk; C. Virtual memory; D. RAM

4. In a binary search tree, the left subtree of a node contains values: (6%)
   A. Greater than the node; B. Equal to the node; C. Smaller than the node; D. Arbitrarily ordered

5. IPv6 provides a larger address space compared to IPv4. True or False? (6%)

6. A firewall can prevent all types of cyber-attacks. Ture or False? (6%)

7. The protocol used for sending email is_____. (6%)

8. The process of organizing data to reduce redundancy and improve data integrity is called _____. (6%)

9. Explain the difference between a process and a thread. (6%)

10. What is the purpose of a page replacement algorithm in operating systems? (6%)

11. Match the following technologies with their primary applications: For example (1-B, 2-C,3-D, 4-A) (12%)

    1. Blockchain. 2. Artificial Intelligence. 3. Edge Computing. 4. Quantum Computing.

    A. Data privacy and secure transactions. B. High-speed data analysis for machine learning.
    C. Real-time data processing closer to the source. D. Solving complex computational problems

12. Discuss the role of Edge Computing in modern technology. Provide one real-world application. (14%)

13. What are the ethical considerations of deploying AI-based decision-making systems? (14%)

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