

臺灣綜合大學系統 108 學年度學士班轉學生聯合招生考試試題

科目名稱	計算機概論	類組代碼	A13.D33
		科目碼	A1301

※本項考試依簡章規定各考科均「不可以」使用計算機 本科試題共計 | 頁

1. (Multiple choice) Which of the following technique is for using in local area network? (5%)
 - A. Long-Term Evolution
 - B. WiMAX
 - C. Ethernet
 - D. Bluetooth
 - E. ADSL

2. (Multiple choice) Which of the following sorting algorithms has the lowest worst-case time complexity? (5%)
 - A. Selection sort
 - B. Merge sort
 - C. Bubble sort
 - D. Insertion sort
 - E. Quick sort

3. Please describe the procedure of transmitting an encrypted file using RSA and AES. (10%)

4. What is 'swapping' in the operating system? (10%)

5. Please describe the three main components of a CPU. (10%)

6. Compute '1 - 3' using 2's complement in 3-bit signed integers. (10%)

7. What is the height of a complete binary tree with 12793 nodes? (10%)

8. Please describe the Proof-of-Work mechanism used in blockchain. (10%)

9. Please write the pseudo code of Hanoi tower's recursive function
 Hanoi(index, A, B, C). There are n disks in tower A with indexes 1 to n, and we want to move all disks from tower A to tower C. (20%)

10. Please describe the procedure of transmitting a digitally signed message using RSA and SHA. (10%)