

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%)