系所組別　工程科學系在職專班甲組

考試科目　計算機概論（專班）　　　　　　　　　　　　　　考試日期：0306，節次：3

※ 考生請注意：本試題 ☑可 □不可 使用計算機

1. Why the loading of an operating system from hard disk into main memory of a computer is called **"Boot"**? What major steps and major components in a computer system are involved in this "boot" process? (20%)

2. The evolution (進化) of operating systems is majorly in three stages, i.e. **BIOS**, **DOS**, and **Windows**. Please describe the main breakthroughs (突破) and progresses of functionalities (功能) of operating systems in each stage. (20%)

3. Please give a detail description on the relationship among **Web Browsers**, **Web Pages**, **Web Servers**, **Proxy Servers**, and the **HTML Protocol**, drawing a graph if possible. (20%)

4. With **64bit** CPUs becoming available, **64bit** applications and operating systems are also appearing. (20%)

   (a) Please describe what major functions of a CPU that differentiates **64bit** CPUs from **32bit** CPUs.

   (b) How does a **32bit** CPU perform a **64bit** operation?

5. Please draw a graph to show how **NICs**, **HUBs**, **Switches**, **Gateways**, and **Routers** are connected to form a complete network, and please give a detail description on each of these devices. (20%)