

國立臺北藝術大學九十三年度研究所碩博士班招生考試
科技藝術研究所碩士班丙組
多媒體技術 試題

注意事項:

1. 試卷（答案卷）僅有一冊，不再增頁，請斟酌作答。
2. 本試題共有二頁，請考生於作答前務必檢查清楚，如有缺漏、字跡不清等疑問，請當場提出，考後不得再行提出任何異議。
3. 試題必須隨試卷繳回。
4. 請在試卷上作答，否則不予計分；試卷請務必標明題號。

I、 Network and System Concepts (50 %)

1. What is the differences between POP3 protocol and SMTP protocol? (5%)
2. Please give a brief explanation on following terms about network: (12%)
 - (1) Synchronous Transmission and Asynchronous Transmission
 - (2) ADSL and T1
 - (3) Packet-switched network and Circuit-switched network
3. Please explain the “firewall” mechanism in detail? Additionally, can the firewall mechanism eliminate the computer virus, please explain you reasons? (5%)
4. Please give a brief explanation on following terms: (12%)
 - (1) WAP(Wireless Application Protocol)
 - (2) Bluetooth
 - (3) Wi-Fi
5. Please discuss reason behind the definition of IPv6, including main new factures associated with it and comparisons with the popular IPv4 (8%)
6. At present, we need to set the “subnet mask” in our computer for connecting to the Internet.
 - (1) Please explain why “subnet” design is needed in the Internet? (3%)
 - (2) To connect to the Internet, the subnet mask needs to be set as “255.255.240.0” at school. However, John made a mistake and set the subnet mask as “255.255.255.0” in this computer. What situation will happen? (Assume all other configurations in John’s computer are correct.)(5%)

II、 Multimedia Concepts (50%)

1. Please briefly explain the following data format: (1) GIF (2) JPG (3) MPEGII (12%)
2. (1)What is the major components in a game design procedure? (5%)
(2)What is the major differences between a 2D Game Engine and a 3D Game Engine?(5%)
3. Please show the position of the TCP, UDP, RTP, RTCP and RTSP protocols in relation to the various network layer and applications. (5%)
4. In relation to the encoding procedure in the video compression, 80% of computing is occupied by the motion estimation. Why the motion estimation is needed in the video compression?
Additionally, please try your best to explain some techniques to speed up the motion estimation.
(5%)
5. Please give a brief explanation on following terms:
 - (1) Server-Client and Peer-to-Peer (5%)
 - (2) Java applet and Java servlet (5%)
 - (3) True VOD and Near VOD (4%)
 - (4) DIRECTX and OPENGL (4%)