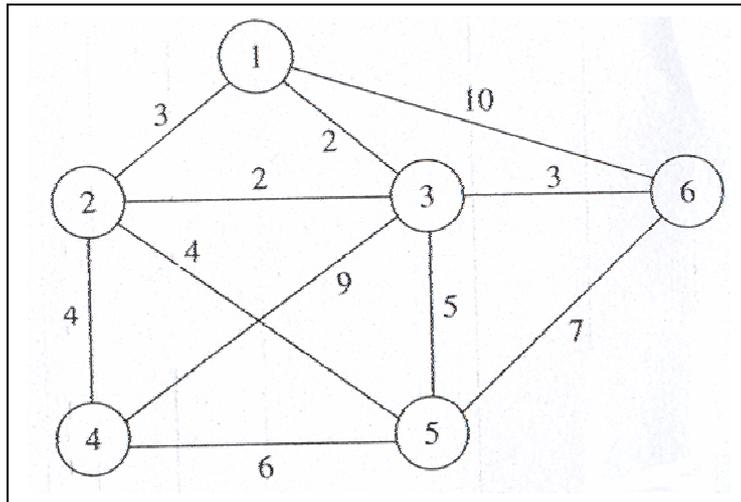# 國立金門技術學院
98 學年度電資研究所碩士班（資訊系統組）入學考試試題

計算機概論

一、單一選擇題（每題 2 分，總分 30 分）

1. What type of software takes control of the PC on start up, and then plays a central role in all interactions with it?　(A)Application (B) System (C) Integrated (D) Utility

2. What servers are used as filters to limit outside access to the real server and to limit employee access to specific Web sites? (A) Firewall (B) Client-blockers (C) Proxy (D) Server-stoppers.

3. Which of the following types of operating systems allows the concurrent execution of more than one program at a time? Multiprocessor (B) Multi-user (C) Multitasking (D) Time-sharing

4. What is the new encryption technology called that converts the recipient's e-mail address into a number, which is used in a mathematical algorithm to complete the encryption process?(A) Cyber-key encryption (B) Algorithm-based encryption (C) E-mail based encryption (D) Identity-based encryption.

5. The IEEE 802.11a communications standard permits transmission rates of (A) 11 Mbps up to about 300 feet from an access point. (B) 11 Mbps up to about 50 feet from an access point. (C) 54 Mbps up to about 300 feet from an access point.(D) 54 Mbps up to about 50 feet from an access point.

6. What systems detect unique personal characteristics and match these against a database containing the characteristics of authorized users? (A) Database management systems (DBMS) (B) Biometric identification systems (C) Biofeedback systems (D) Personality identification systems.

7. Which of the following servers have multimedia capabilities and have emerged as the dominant server type on the Internet? (A)News　(B) FTP　(C) WWW (D) Media

8. What is environmentally sensible computing known as? (A) Ecological (B) Nature's (C) Blue (D) Green.

9. An automatic teller machine (ATM) is (A) only an input device (B) only an output device (C) both an input and output device (D) neither an input nor an output device

10. What software is used to search for answers to unasked questions and detect unanticipated trends from databases? (A) Data mining (B) Data warehousing (C) Query by example (D) Relational search engine.

11. In what area of research do researchers work to develop hardware and software that can imitate intelligent human behavior? (A) Artificial intelligence (AI) (B) Biometric (C) Info metrics (D) Semantics.

12. What is the term for the computer-to-computer exchange of data and information between businesses? (A) Computer-to-computer (C2C) (B) Business-to-business (B2B) (C) Business-to-consumer (B2C) (D) Computer-to-customer (C2C).

13. What is the Internet equivalent of an address called? (D) protocol (B) URL (C) HTTP (D) World Wide Web (WWW).

14. A truck dispatching information system may include an onboard _____ that gives the precise location of each vehicle in the fleet. (A) vehicle monitoring system (VMS) (B) LoJack system (C) global positioning system (GPS) (D) system tracking program (STP).

15. Which of the following is NOT a frequently cited reason for telecommuting? (C) Money savings on office space (B) Improved employee morale (C) Increase of sick time (D) Increased productivity.

二、問答題

1. IF input sequences are {7,5,1,4,3,2,6}, please write and explain the straight insert sort concept and sort the sequences with the straight insert sort method. (15%)
2. Use Kruskal's algorithm to find a minimun spanning tree of the following graph. 15%

3. IF input Array A=<3、9、5、17、12、1、8>, please show your steps how to build the MaxHeap? (15%)

4. 設有一可裝滿 5ml 的量杯 A 及可裝滿 3ml 之量杯 B，A、B 均沒有刻度，試用量杯 B 與量杯 A 寫一演算法以量出 4ml 之水。15%

5. What restrictions must be placed on a table for it to be considered a relation in a relational-database systems? 10%