

淡江大學 100 學年度轉學生招生考試試題

49

系別：資訊工程學系三年級

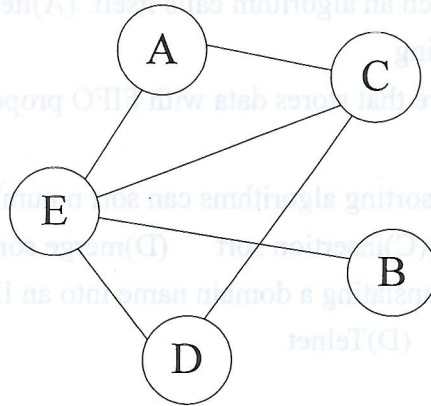
科目：資訊概論

49-1

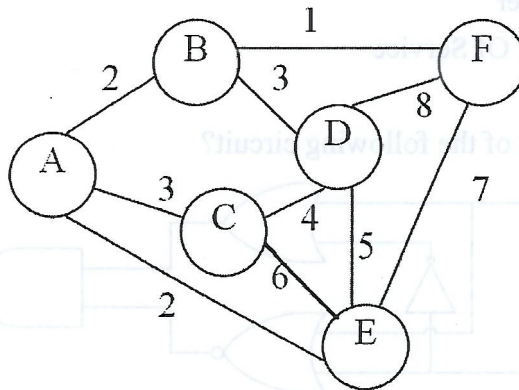
考試日期：7月19日(星期二) 第3節

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8. (10%) For the following undirected graph, write the (a) adjacency matrix; (b) adjacency list representation



9. (15%) For the following graph, use Kruskal algorithm to find out the minimum cost spanning tree



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49-2

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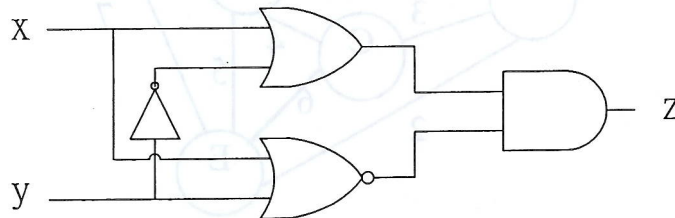
1. (15%) Multiple choice question:

- _____ describes a medium whose contents are erased when the power is shut off.
(A)erasable (B)volatile (C)flash (D)non of the above.
- _____ is a process in which an algorithm calls itself. (A)iteration (B)recursion
(C)hashing (D)indexing
- What is the data structure that stores data with FIFO property? (A)stack (B)queue
(C)array (D)tree
- Which of the following sorting algorithms can sort n numbers in $O(n \log n)$? (A)bubble
sort (B)quick sort (C)insertion sort (D)merge sort
- _____ is responsible for translating a domain name into an IP address. (A)WWW
(B)DNS (C)DHCP (D)Telnet

2. (20%) Explain the following terms

- Von Neuman architecture
- Brute Force
- Divide and Conquer
- Distributed Denial Of Service

3. (5%) What is the output of the following circuit?



4. (5%) Calculate the value of base $x (> 0)$ in $(211)_x = (152)_8$.

5. (6%) What is the difference between a compiler and an interpreter?

6. (9%) Fill the blank

- 1 Giga bytes = ___ Kilo bytes.
- 1 second = ___ nanosecond
- 1 microseconds = ___ second

7. (15%) Use Insertion Sort to sort the sequence of numbers 6,9,18,19,36,5 in non-decreasing order.

- Show the action step by step. (10%)
- Show the number of required comparisons. (5%)

本試題雙面印刷