

1. Explain the following terms (20%)

- (a) Accumulator (b) Buffer (c) Machine language (d) Bubble sort
(e) Numerical analysis

2. Number systems conversion (15%)

- (a) Binary to Decimal $(10110110)_2 = (\quad)_{10}$
(b) Decimal to Hexadecimal $(1289)_{10} = (\quad)_{16}$
(c) Decimal to Binary $(15.625)_{10} = (\quad)_2$

3. (a) What is called "Flow Chart" ? (5%)

- (b) Draw a flow chart to explain the total sum of computing
 $1+2+3+\dots+99+100$ (5%)

4. (a) Describe the key elements for organizing a database system ? (5%)

- (b) Explain three levels for a database architecture ? (5%)
(c) What is the "data dictionary" for a database ? (5%)

5. (a) Describe the key elements for a data communication system ? (5%)

- (b) How to perform communication for two computers in a remote distance ? (5%)
(c) What is called multiplexing techniques ? (5%)

6. (a) What are the main functions for a computer operating system ? (10%)

- (b) Give your answer by examples for an "interrupt" during computing process ?
(5%)

7. Explain Intranet and Internet, what are the difference between them ? (10%)