招 生 學 年 度	105	招 生 類 別	碩士班
系 所 班 別	資訊工程學系碩士班（資工乙組）		
科 目 名 稱	英文		
注 意 事 項	以科技英文為主		

I.

You have to choose the best answer, marked A, B, C, or D, to each question and write down your answer in the associated cell.　You will have 2 points for each correct answer and there is no penalty with wrong answers. (20%)

Computer science [1. (A) am (B) is (C) are (D) be] the discipline that seeks to build a scientific foundation for such topics as computer design, computer programming, information processing, algorithmic solutions of problems, and algorithmic process itself.　It [2. (A) provide (B) providing (C) provided (D) provides] the underpinnings for today's computer applications as well as the foundations for tomorrow's applications.

This book provides a comprehensive introduction to this science.　We [3. (A) will (B) doesn't (C) have (D) are] investigate a wide range of topics including most of those that [4. (A) constitute (B) constituting (C) constituted (D) constitutes] a typical university computer science curriculum.　We want to [5. (A) appreciate (B) appreciating (C) appreciated (D) appreciates] the full scope and dynamics of the field.　Thus, in addition to the topics [6. (A) they (B) them (C) their (D) themselves], we will be [7. (A) interest (B) interesting (C) interested (D) interests] in their historical development, the current state of research, and prospects for the future. Our goal [8. (A) has (B) have (C) is (D) are] to establish a functional understanding of computer science – one that support those [9. (A) what (B) who (C) when (D) where] wish to pursue more specialized studies in the science as well as one [10. (A) this (B) that (C) it (D) the] will enable those in other fields too flourish in an increasingly technical society.

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II. Translation *(80%)*

Translate the following English paragraphs into Chinese. You will have 20 points for each correct translation and there is no penalty with wrong answers. Partial credits will be given according to the correctness of translation.

1. A binary search tree is a binary tree. It may be empty. If it is not empty, it satisfies the following properties:

    (A) Every element has a key, and no two elements have the same key, that is, the keys are unique.

    (B) The keys in a nonempty left subtree must be smaller than the key in the root of the subtree.

    (C) The keys in a nonempty right subtree must be larger than the key in the root of the subtree.

    (D) The left and right subtrees are also binary search trees.

2. Cache memory consists of a small, fast memory that acts as a buffer for the DRAM memory. Cache is built using a different memory technology, static random access memory (SRAM). SRAM is faster but less dense, and hence more expensive, than DRAM.

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3. Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, manage, and process data within a tolerable elapsed time. Big data requires a set of techniques and technologies with new forms of integration to reveal insights from datasets that are diverse, complex, and of a massive scale.

4. Programming languages are notations for describing computations to people and to machines. The world as we know it depends on programming languages, because all the software running on all the computers was written in some programming language. But, before a program can be run, it first must be translated into a form in which it can be executed by a computer. The software systems that do this translation are called compilers.