

中央警察大學 106 學年度碩士班入學考試試題

所 別：資訊管理研究所

科 目：計算機概論

作答注意事項：

1. 本試題共 4 題，每題 25 分；共 2 頁。
2. 不用抄題，可不按題目次序作答，但應書寫題號。
3. 禁用鉛筆作答，違者不予計分。

一、Consider the mobile systems, the one of 3C applications in the computer sciences. Android operating system (AOS for short) is a stack of software components, which is divided into five categories and four main layers. Describe what the categories and layers of AOS are, in details.

二、

(一) There are two restaurants next to each other. One has a sign that says, “good food is not cheap,” and the other has a sign that says, “cheap food is not good,” Are the two signs saying the same thing? Say the reasons in the formal rules, as your decision. (15 分)

(二) Decide the two propositions as follows:

$$[(p \wedge q) \vee (p \wedge r)] \rightarrow s$$

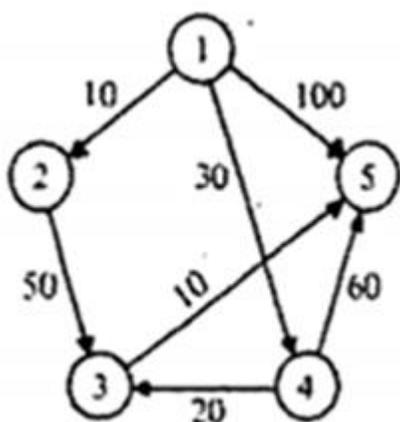
and

$$[\bar{p} \vee (\bar{q} \wedge \bar{r})] \vee s,$$

which are equivalent or not. (10 分)

三、

(一) Consider the directed graph in the following:



Please give the adjacent matrix for the directed graph. (12 分)

(二) Represent the directed graph as an adjacent list. Assume the numerical order on each list of adjacent vertices. (13 分)

四、

(一) Describe the functions of compiler and interpreter, respectively, in a computer system. (8 分)

(二) Please write the seven layers of Open Systems Interconnection (OSI) model and explain their functions in detail. (9 分)

(三) What are the functions of registers and cache in a computer system? (8 分)