邏輯

＊本考試使用之邏輯符號如下：
∀：全稱量限號(universal quantifier)
∃：存在量限號(existential quantifier)
¬：否定號(negation)　　∧：連言號(conjunction)　　∨：選言號(disjunction)
→：條件號(conditional)　↔：雙條件號(biconditional) 𝔻：論域(domain of discourse)
＊本考試題目包括 Part I 以及 Part II。

Part I （25 分）

一、請使用述詞邏輯(predicate logic)的語言表示下列語句（每題3分）：
(1) 只有主管才有助理。
　　（Ax：x 是主管，Bx：x 有助理）
(2) 有些學生選修一些自己不喜歡的邏輯課。
　　（Ax：x 是學生，Bx：x 是邏輯課，Dxy：x 選修 y，Exy：x 喜歡 y）
(3) 沒有教師不開課的。
　　（Ax：x 是教師，Bx：x 開課）
(4) 《史記》的作者是漢朝人。
　　（a：《史記》，Axy：x 是 y 的作者，Bx：x 是漢朝人）

二、請在𝔻={a, b}的釋模(model)裡探討下列論證是有效的或無效的（4分）：
(5) (∀x)(∃y)Axy
　/∴　(∃y)(∀x)Ayx

三、證明
(6) 設某關係 R 是反對稱的(asymmetrical)。請證明 R 是反自反的(irreflective)。
　　（4分）

(7) 1. Aa∧¬Db　　（5分）
　　2. (∀x)(Ax → Bx)
　　3. (∀x)(Bx → Dx)　　/∴　¬(a=b)

見背面

邏輯

Part II

Note that in this exam., a standard formal language for propositional logic, $\mathcal{L}_k$ and a formal language for predicate logic, $\mathcal{L}_Q$ are assumed.

Please answer no more than three questions but up to, or over, a maximal combination of 25%. (請任選二至三題作答、超過25%最多以25%計)

(1) (10%) Are there any good reasons for the realist to claim that there are propositions which are abstract entities of some kind? Or are there any good arguments against the realist's view?

(2) (10%) What is Tarski's T-scheme? How does Tarski characterize the concept of truth by the appeal to T-scheme?

(3) (10%) What is a propositional attitude? In what sense, a sentence expresses a certain propositional attitude is said to be opaque?

(4) (15%) In what sense a set is said to be decidable? In what sense a standard formal language for propositional logic, L_k and a formal language for predicate logic, L_Q are said to be decodable? In what sense classical propositional logic is said to be decidable? Why predicate logic is not decidable?

(5) (15%) Intuitionistic logic (also known as constructive logic) is a symbolic logic system that differs from classical logic semantically in its definition of what it means for a statement to be true. Explain, from a semantic point of view, what makes intuititionistic logic different from classical logic. Syntactically, intuitionist logic also differs from classical logic, in what sense? Some logicians claim that intuitionistic logic is a subsystem of classical logic. Would you agree? Why? Ironically, some maintains that intuitionistic logic is an extension of classical logic. Would you agree? Why?

(6) (15%) Almost all logicians and philosophers use, or accept, so-called logical symbols, such as $\neg, \vee, \rightarrow, \wedge, \exists, \forall$ in the construction of a formal language for a formal system. They are known as logical constants, or logical operators, or connectives. But exactly what the meaning of a logical constant is remains open to dispute. At present, there are two dominant accounts: model –theoretic account and proof-theoretic accounts. Explain what they are and show any difficulty with either of them.

知識論

以下兩題皆須回答，每題分別佔總分之 25%：
（請以數字標明各小題的回答，字跡請力求清晰。）

1. 你抬起頭來看。你看到試務人員在監考。你心裡想：「我知道試務
人員在前面。真是的，他幹嘛那麼認真盯著我們看！」
你真的知道試務人員在前面嗎？
(1) 請試著舉出理由來懷疑你知道試務人員在前面。
(2) 請試著反駁你在(1)中的懷疑。

2. 在日常生活中關於未來的知識有許多種，例如：「我知道明天有百
分之七十的機率會下雨。」、「我知道眼前這張桌子五分鐘後還會
在這裡。」、「我知道明年我又會長一歲。」等等。 請問：
(1) 關於未來的知識涉及到哪些哲學問題？為什麼？
(2) 根據前一小題的作答，我們能否擁有關於未來的知識？甲認為可
以，乙認為不行。你認為哪一種立場比較恰當？請提出論證來支
持你的立場。
(3) 請舉出一個論證和例子來反對你的立場，並予以回應。

試題隨卷繳回